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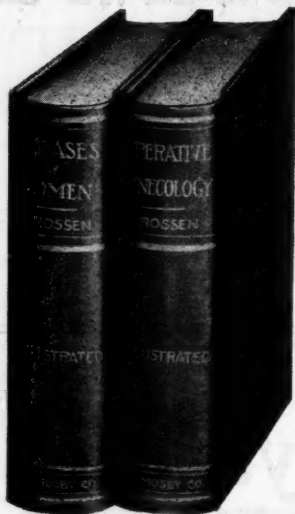
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# THE MEDICAL JOURNAL OF AUSTRALIA.

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No. 13.

## THE DIAGNOSIS AND TREATMENT OF SYPHILIS ON ACTIVE SERVICE.<sup>1</sup>

By G. Grantham Anderson, M.B., Ch.B. (Melbourne),  
Captain, Royal Army Medical Corps.

In introducing the subject of the diagnosis and treatment of syphilis on active service I wish to give you some idea of the routine treatment as carried out in a venereal hospital in France, and particularly at the No. 51 General Hospital.

Let it be clearly understood that the object of the treatment is to get an infected patient cured of his disease in the shortest period possible, and for this reason the drugs employed are pushed to the utmost tolerance of their toxicity, whereas in the treatment of a private case, where time is not such an important factor, each individual case could be treated on its merits, and the doses of drugs regulated accordingly. Thus, although the treatment cannot be called ideal, it is essentially practical for dealing with large numbers of patients, and should be regarded as the minimum which should be given in an average case.

### Diagnosis.

It is of the utmost importance that an accurate diagnosis be made as early as possible. In the first place, the patient is very infective to others, and, secondly, the earlier the diagnosis is made and the earlier the stage of the disease, the less the amount of treatment is necessary. If the patient is in the primary stage of syphilis, and the disease is diagnosed and arrested before there is a general systemic infection, evidenced by the positive Wassermann reaction, it is a reasonable conclusion that he can be more easily cured than if one waited until secondary signs appeared; and the results obtained confirm this supposition. Thus, one should make every effort to use all methods at one's disposal for the establishment of an early diagnosis.

Just as one has a routine method for the examination of the chest, so one should have a routine examination for syphilis. The incubation period is extremely important, but on active service it is often not reliable, because soldiers give a history of several recent exposures during periods preceding the appearance of the sore, and it is impossible to say at which exposure he was infected.

Another point that frequently happens is that a soldier gives the history of a recent exposure, say two weeks previously, and an incubation period of, say ten days. This rather puzzles the medical officer, who finds a typical hard chancre; and, perhaps, too, a rash or condylomata, but on questioning the patient one invariably finds that he ran a previous risk of infection six weeks or two months before, and this, of course, was the date of infection.

Nevertheless, if one has a definite picture of syphilis, it is always a good thing to ignore any history

which is not compatible with the clinical signs present. One is always seeing cases where the history is quite unreliable. The usual incubation periods, as we see them, are anything from fourteen days to two months, but one cannot rely on their being correct. Again, one finds a man who gives a faithful account of his infection, and who seems to have a soft chancre; in spite of treatment, this may not heal up, and at a later date, on examination, one may find a superimposed hard chancre.

The routine method of examination that we adopt is as follows:—

- (1) Examination of penis and genitalia thoroughly for sore or sores. Feel edges for induration, and note the base for signs of sepsis. If extra-genital, note the characteristics.
- (2) Examine groins, neck, epitrochlear regions, etc., for glandular enlargement.
- (3) Examine body, trunk, and limbs for rash.
- (4) Examine buttocks, anus and scrotum for condylomata.
- (5) Examine throat for mucous patches. Pay particular attention to lips, angles of mouth, tonsils, uvula, fauces and tongue, especially in tertiary manifestations.
- (6) Examine hair, and pull several out, to ascertain if they are coming out too freely.

If the disease is in the tertiary stage, of course, one must carry out a thorough examination of the nervous system, with which you are all familiar.

If one is uncertain about the sore, the following procedure should be adopted. The sore or lesion should be dressed with saline solution (if any mercury be used, it is difficult to find *Spirochaeta pallida*) three times a day for two days, and then scraped with a blunt instrument; the exudate is examined with the aid of a microscope fitted with a dark ground condenser. Both primary and secondary lesions can be examined in this way, and in many cases the diagnosis can be confirmed by the finding of the *Spirochaeta pallida* long before the naked eye or the Wassermann test can do it. The Wassermann reaction is never positive earlier than seventeen days after the first appearance of the primary lesion.

(1) Position of the sore. The sore may be found on the penis, glans, prepuce, corpus root, pubes, scrotum, abdomen, thighs, umbilicus, lips, tongue and cheeks. Frequently patients have scabies and multiple secondary infective chancres.

(2) Involvement of the glands. (a) The lymphatic glands are of various types in the groins. In the typical, hard, unbroken Hunterian chancre they are pea-like, hard, shotty and regularly large. When the skin has been broken and there is an ulcer-like chancre, a mixed infection is frequently present, and the glands are large, in irregular bunches; bubo may be found.

(b) In the neck they are enlarged only when there is a commencing systemic infection. (c) When the

<sup>1</sup> A paper read before the Etaples Medical Society, February, 1917.



systemic infection is thoroughly established, in many cases the epitrochlear glands are enlarged. These are most frequently felt with the elbow bent, on the ulnar side of the upper arm, about 2.5 cm. behind and below the bend of the elbow, and just superficial to the vessels. They are almost pathognomonic of syphilis, provided there has been no history of a local infection to the fingers, hand, wrist, forearm, or general lymphatic disease.

(3) The rash may be multiple. It begins as a macular rash, is more easily seen on the sides of the body and comes out in cold or exposure. It is at first rose red, and not discrete, and then maculo-papular. The macules fade, and it becomes more papular and discrete. After that it assumes the typical copper colour. The papules become flat-topped and shiny, and they may even exfoliate and resemble a psoriasiform type, and the distribution may be circular or multiple, often mixed with scabies, seborrhœa and impetigo, giving rise to a pustular syphilide; later, it may appear as a leucoderma, rupia.

(4) Condylomata usually appear late. They are flat, and have a weeping surface with heaped-up edges. They are very infectious, and emit a nasty smell.

(5) The examination of the mouth is extremely important. Other signs suggestive of syphilis are patches of alopecia, and falling out of the hair. In tertiary syphilis there may be a local lesion. Our cases include gummata of the legs, arms, face, lips, tongue, pharynx, etc.; periostitis of the tibia and cranium, syphilitic ulcers of the tongue, leucoplakia, tabs and general paralysis of the insane, rhinitis, otitis, keratitis, etc., and congenital conditions.

#### Treatment.

As soon as the diagnosis has been made, the treatment should be begun. It should be local and general.

(1) *Local*.—This consists in the application of calomel (30 %) to lesion or sore. If the lesion is septic, eusol or some other antiseptic should be used. At a later date red lotion or scarlet red is employed. The rapidity of healing depends on the amount of mixed infection, but usually the primary sore heals after three injections of salvarsan. A mouth wash of lysol and chloroform (7 parts to 1), 10 to 15 drops to 300 c.cm., is used four times a day.

(2) *General*.—The drugs used are salvarsan, or its equivalents, arseno-benzol and kharsavan; neo-salvarsan and its equivalents, neo-arseno-benzol and neo-kharsavan; galyol (a preparation of which I have had very little experience) and mercury; luargol (a preparation in which the active principle is antimony, as well as arsenic and silver).

The old salvarsan is almost impossible to obtain at the moment, but arseno-benzol and kharsavan are fairly easily obtained, the former being a French preparation and the latter English.

Salvarsan may be injected subcutaneously and intravenously. Mercury is given by the mouth, by inunction, and intramuscularly. The Portuguese medical officers use the oxyanide of mercury intravenously, and report good results in tertiary cases.

When these drugs were first introduced, it was thought by some observers that salvarsan and its

equivalents were so deadly to the life of the *Spirochaeta pallida* that one injection, or two at the most, would be sufficient to cure the disease. There seemed to be considerable evidence to support this theory, as the clinical signs disappeared within a day or so of the injection, and it was quite natural to suppose that the action of the drug was so powerful that the causative agent had been destroyed.

However, further observation has shown us that, if left for a reasonable period, a patient who receives insufficient treatment, relapses, and the point about the relapse is that it occurs normally at the same stage in which the patient was before receiving treatment. After one full dose injection, relapse occurs in from four to eight weeks, even sooner in my experience.

It seems quite a curious thing that one dose of salvarsan did not cure the patient, but it was discovered that the drug was very quickly excreted, and, in fact, when given intravenously some observers state that it is all excreted within three to six days from the date of injection. Thus, having evidence that the disease had been arrested, as the clinical signs began to disappear, we began to give more and more salvarsan. The second and later injections were given at the time when it was supposed that the previous dose had been excreted. In this connexion I wish to say something about mercurial injections.

Mercury has always been regarded as a most efficient drug in the action against the *Spirochaeta pallida*. When it was discovered that "606," which undoubtedly stirred up the causative agent of the disease, was excreted very rapidly, it was thought that if mercury were present in the system, it too would have a germicidal effect, especially when the *Spirochaeta pallida* was somewhat damaged after the injection of "606." Thus the idea was conceived of the combination of the two drugs, and it is on these lines that our treatment is carried out at present.

The courses at various hospitals for venereal diseases vary to a certain extent, depending on the salvarsan or its equivalent used. Thus, at Havre, arseno-benzol or kharsavan is used almost exclusively. The old course at Havre, Colonel Harrison's, was originally eight injections of 0.3 gm. salvarsan, or its equivalent, and seven of mercury, and we, at No. 51 General Hospital, have followed this course, using neo-arsenobenzol in the place of arseno-benzol, the dose being in proportion of 3 to 2 respectively. On coming to Camiers we were under some difficulties, as the treatment had to be carried out in store tents and marquees, so that it was found more convenient to use neo-salvarsan and its equivalents, as the preparation and administration were much simpler. I was certainly pleased to find in special cases in which the Wassermann test had to be carried out after the course had been completed that the test was returned as negative in all cases of primary syphilis, and in most of the secondary cases; while in the majority of the tertiary cases of long standing a partial Wassermann reaction was obtained, indicating that further treatment was required. This led me to treat every case on its merits, and although a patient with a primary sore received only eight injections of 0.45 grms. of neo-arseno-benzol and seven injections of mercury, I found



that patients in the secondary stage yielded in most instances a negative Wassermann reaction after eleven novarseno-benzol and eight mercury injections. Longer treatment was required in the tertiary stages, and as I was not in a position to get the Wassermann reaction done on a large scale, I had to be contented with giving the patients twelve doses of novarseno-benzol and nine of mercury, and discharging them. In all cases they were greatly improved, and their lesions cleared up, with the exception of leucoplakia, which never seemed to react well to treatment, although the patients always asserted they felt better. During the rests from treatment the patients suffering from tertiary syphilis always received one gramme of iodide of potash three times a day, and later two grammes. On coming to No. 51 General Hospital, I was fortunate enough to secure the services of Captain H. D. Haworth, to whom I am much indebted. On the basis of a series of Wassermann reactions after the course of eight injections of novarseno-benzol and seven of mercury, I arrived at the following conclusions:—

(1) In primary syphilis the Wassermann reaction was always negative if treatment had been started within a reasonable time after the appearance of the lesion, and before the appearance of secondary symptoms.

(2) In at least 50% of the secondary cases a complete negative reaction was not obtained.

(3) In tertiary syphilis a negative reaction was never obtained, but in a large percentage of the cases the Wassermann reaction, which had been strongly positive, was reduced to a partial reaction.

For this reason my course of treatment is as follows:—

No. 1 Course.—For primary cases.

No. 2 Course.—For early secondary cases.

No. 3 Course.—For tertiary cases (mouth).

No. 4 Course.—For late secondary cases and other tertiary cases.

No. 1 Course.—Forty-one days roughly, for primary syphilis (chancre, adenitis of the groin).

(a) Eight injections of novarseno-benzol, 0.45 gm.

(b) Seven injections of mercury (one of calomel, 0.75 gm., and six of grey oil, 1 gm.).

(a) Three injections of novarseno-benzol are given intravenously, every fourth day. Then follows a rest of from nine to fourteen days, the period depending upon the weather, as the liability towards sequelæ increases during the cold weather. Thus, the first three injections are given on the first, fifth and ninth days, then the period of rest for nine days, then two more injections with the same interval, that is, on the nineteenth and twenty-third days, then nine days more rest, then three more injections on the thirty-third, thirty-seventh and forty-first days.

(b) The injections of mercury are given one a week intramuscularly into the buttock. Sometimes we get behind with these and have to give two in the third or fourth week. The first injection of 0.75 gm. of calomel cream, and the others of 1 gm. of grey oil, made according to Colonel Lambkin's formula.

I can confidently say that in all early cases of primary syphilis the blood yielded a negative reaction after this course of treatment, but as it was negative in the majority of cases before the course began, it was impossible to determine with certainty whether the patients were completely cured unless they were again seen at a later date. Patients who returned three to five months after their course had been completed, yielded a negative reaction. It would be very desirable if we could test each patient's blood three months later, then six months later, twelve months later, and two years, just for safety, until our experience teaches us that we can assume that they are cured. The total amount given in this course is 3.6 grammes.

No. 2 Course.—Forty-three days, for early secondary syphilis. In this course the mercury is given as in No. 1 Course, but the novarseno-benzol is given in increasing doses, as follows: Four doses of 0.45 gm., two of 0.6 gm., and two of 0.9; the four of 0.45 are given at intervals of four days, on the first, sixth, ninth and thirteenth days, then follow nine days' rest, after which two doses of 0.6 gm. are given on the twenty-third and twenty-seventh days, then another nine days' rest, then two of 0.9, which takes seven days, making a total of 43 days. Unfortunately, my figures as to result of this are not in any way complete, but the results up to the present are very satisfactory. The total amount given in this course is 4.8 grammes.

No. 3 and No. 4 courses, for late secondary and tertiary syphilis, I will take together. These at present are still in the experimental stage. As the types of cases vary considerably, every case of tertiary syphilis should be treated on its merits, and no definite course should be laid down. As it is necessary to get these patients fit for duty as soon as possible, and time is a great factor, they are in a good many instances discharged relieved, although the Wassermann reaction is not negative. Some of the cases are of from one to twenty-five years' standing. Experience shows that the longer the history of syphilis, the more difficult it is to obtain a negative blood reaction. In fact, many good authorities believe that it is impossible, but, for my part, I am of the opinion that, provided sufficient time is at one's disposal, no case is incurable. A blood examination is necessary beforehand, and in cases where there is any suspicion of nervous involvement a cerebro-spinal puncture should be carried out, and the fluid examined; (1) for cells mainly mononuclear lymphocytes, which should not exceed 10 per c.mm.; (2) for the Wassermann reaction.

This reaction is much more delicate than with the blood serum, and can be carried out more accurately and in greater dilution. In cases in which the tongue and mouth are involved, it is often very difficult to give mercury, owing to the severe stomatitis and gingivitis caused. In these cases the treatment has to be confined to neo-salvarsan and iodide of potash. I give two injections of 0.45 gm., two of 0.6 gm., and four of 0.9 gm., as follows: The first four injections in thirteen days, then a rest for nine days, then two of 0.9 gm. weekly, then another rest of nine days, and finally two more of 0.9 gramme. The whole course lasts 47 days. Only one mercury injection is

given. Potassium iodide (1 grm.) is given three times a day when the first rest of nine days begins, and later the dose is increased to two grammes three times a day. This constitutes the No. 3 course.

In cases where the mouth is in fairly good order, and where the lesion is a gumma, perititis, a late secondary or tertiary syphilitic lesion, the No. 4 course is given. The neo-salvarsan is given exactly as in No. 3 course, but the mercury is given as in No. 1 course, that is, seven mercurial injections. The total amount given in this course is 5.7 grammes.

For cases of parasyphilis and in many cases of tertiary syphilis (tabes and general paralysis of the insane) I do not think that this course is sufficient. The Wassermann test and an examination of the cerebro-spinal fluid should be again carried out, and the course repeated after an interval.

Before proceeding to describe the mode of administration of salvarsan, there are a few details which should be referred to.

(1) The urine of the patient should be examined for albumin, because the drug is undoubtedly an irritant, and occasionally produces albuminuria and acute nephritis.

(2) The patient should not be allowed to take heavy or indigestible food before the injection. A very light meal is given two hours before. Some people advise starvation before the injection, as occasionally it leads to a general upset and causes the patient to vomit. The bowels should be emptied before the injection.

(3) After the injection the patient should go to bed and lie down till the next morning. It is absolutely essential that he should be kept warm, otherwise there is a grave danger of marked and general reaction.

#### Mode of Administration.

(1) Novarseno-benzol (dioxidiamido-arseno-benzol monomethylene sulphoxalate of soda).—The preparation is made up in airtight glass ampoules, and for convenience I have mine sent in full doses of 0.9 grm. It is yellow powder, very unstable on exposure to air or to heat. The tube is put into alcohol before use, to sterilize it as far as possible, and to protect against it having a crack in the glass.

It is dissolved in 5% saline solution (half strength normal saline solution). Forty-five centigrammes are instantly dissolved in 20 c.cm., and yield a clear yellow solution. Some people use ordinary distilled water. It is absolutely necessary to have it freshly distilled, otherwise there is great liability to reaction afterwards.

Another point worth noting is that, although the advice is given to use water and the half strength saline solution cold, I find that a reaction is rare if the temperature of the water be between 60° and 70° C.. The novarseno-benzol does not decompose at this temperature. It is very necessary that the saline solution should be about this temperature during the cold weather. I administer novarseno-benzol by means of a 20 c.cm. glass record syringe. The patient is made to lie on a table with his arm extended on to a smaller table at the head of the one on which he is lying. An orderly then puts a tourniquet round the arm, and this makes the veins stated out. Re-

cently I have done away with a tourniquet, and the orderly simply grips the arm between the fingers and thumb. This prevents any jerking when he releases his hold.

The median basilic or median cephalic vein is the one usually chosen, and the operator presses the vein with the forefinger of the left hand, in order to fix it and prevent it rolling away when he attempts to puncture it. A drop of iodine dissolved in chloroform is then placed over the vein, and the syringe taken in the right hand and sharply pushed into the bulging vein. Immediately the blood will run into the syringe. The tourniquet then is removed, and the contents of the syringe injected.

The tourniquet should be released gently, otherwise the needle may be pulled out of the vein.

Should the vein be missed, it is always wise to withdraw the needle and seek another place, as if the fluid be injected into the tissues, and especially into the muscular layer of the arm, it gives rise to a painful inflammatory condition, which usually proceeds to suppuration. It is no crime to miss a vein, but it is a dreadful business to inject the contents of the syringe into the muscles of the arm instead of the vein, as it causes a troublesome inflammatory condition of the arm, which usually takes a month to subside. After the injection has been carried out, the needle is withdrawn, a sterile dressing is applied and the arm is bandaged.

(2) Arseno-benzol (dichlorhydrate of dioxy-diamido-arseno-benzol).—This is a powder slightly lighter than novarseno-benzol, with a strong acid reaction. The powder is soluble in water with difficulty, and has to be well shaken before it will dissolve. I have my phials made up to contain 3 grammes, which constitutes ten doses of 0.3 grm.

The way it is prepared for injection is slightly different to novarseno-benzol. One uses the same solution of 0.5% saline solution. The contents of the three-gramme phial are dissolved in from 100 to 200 c.cm. of saline solution, which has to be shaken vigorously till all the gelatinous globules are dissolved. It is then neutralized by titrating with normal sodium hydrate (4%) and then made alkaline by adding a slight excess. The amount of sodium hydrate required is marked on each phial, so that there is no accuracy needed in estimating the amount, as with the old salvarsan. The solution is then diluted to one litre (1,000 c.cm.) with the demi-normal saline solution. This constitutes ten doses of 100 c.cm. each. For the injection of this it is necessary to have a special apparatus. The vein is punctured as before, normal saline solution is first injected to insure that the needle is in the vein. Then the dose (100 c.cm.) of the solution of arseno-benzol is injected, and finally 40 c.cm. of saline solution is run through to clear the tube, so that in pulling out the needle none of the arseno-benzol is left in the tissues of the arm.

Intramuscular methods with the drug had been given up until lately. Colonel Harrison's method of deep subcutaneous injections of neo-salvarsan (1 c.cm.) into the fascia just over the glutei is the latest method of administering the drug. He gives one injection of 0.45 grm. and six of 0.6 grm. at intervals

of a week. He reports most excellent results, and thinks the results obtained are much better than by the intravenous method. On account of the extreme cold, and the fact that our patients are lodged in tents, I have not yet tried it, but hope to do so as soon as the weather is warmer.

He dissolves the novarseno-benzol in small amounts of distilled water, about 1 c.cm., and injects it into the deep fascia of the buttock at a point midway between the highest part of the crest of the ilium and the tuberosity of the ischium.

He advises the use of a solution of urea and quinine hydrochloride first, because it is often painful. Some hours afterwards the novarseno-benzol is injected.

An ordinary all-glass syringe is used, and the needle pushed into the glutei muscles and drawn out slowly at an angle. One can then distinctly feel the grating as it passes over the gluteal fascia, and it is there that the piston is pushed home, and the contents of the syringe injected. One injection of 0.45 gm. is given first, and then the others of 0.6 gm. once a week.

The advantage of this method is claimed that the arsenic is not as quickly excreted, and that the lesions disappear more rapidly.<sup>1</sup>

**Contra Indications.**—(i.) Absolute, (a) bleeders (hæmophilia), (b) Addison's disease. (ii.) Relative: Albuminuria; complications with other diseases; febriculae, etc.

Watch carefully and administer under supervision.

**After-Effects and Sequelæ.**—A general reaction, with fever, rigors, vomiting and diarrhœa, is very rare. It comes on a few hours after the injection, lasts for about thirty hours, and then passes off.

The signs of intolerance are jaundice, urticaria, erythema, and dermatitis, which may go on to exfoliative dermatitis, with a general reaction and signs of arsenical poisoning, e.g., vomiting and diarrhœa. When these signs appear the treatment should be more or less suspended, and resumed cautiously.

The arsenical dermatitis may be either slight or severe. In the slight cases there is a general reaction, and the rash resembles that of measles; desquamation occurs almost immediately.

In the severe cases there may be repeated desquamation, and if the patches of desquamation become infected, the patient's condition is very serious indeed.

The local treatment should consist of warm paraffin oil, to get rid of the scales, which should be removed daily, and then *lotio calamin.* should be applied. Ointments making a nasty, sticky mess are not advised on a large scale. The patient should be given a light, nourishing diet. Aperients are given guardedly, for fear of setting up diarrhœa. Brandy may be taken, if necessary.

**Mercurial Injections.**—These take the form of intramuscular injections. The formula is that of Colonel Lambkin. Finely divided mercury, in a vehicle of a palmitin base, is mixed with equal parts of creosote and camphoric acid, which make it antiseptic. The

calomel cream contains 0.045 grammes in 1 c.cm., and the mercurial cream 0.06 gm. in 1 c.cm.

These are given with an all glass syringe into the buttock, on a level with the upper fold of the nates and 7.5 cm. from the mid-line. The patient stands with his back facing the operator, and bends the knee on the side on which he is to receive the injection. This allows the buttock to be perfectly loose. The needle is then plunged to the hilt, and the mercury injected into the glutei muscles.

Stomatitis is the most troublesome sequela, and the patient should be made to use a mouth wash frequently. If the gums are bad, they should be swabbed with alcohol and peroxide of hydrogen six times a day, and dental attention should be sought.

## Reports of Cases.

### PENETRATING WOUND OF THE CHEST WITH AN ASSOCIATION BROWN-SEQUARD PARALYSIS.

By A. E. Rowden-White, M.D.,

Major, Australian Army Medical Corps, France.

Private I.T.L., *æt.* 21 years, of 1st Auckland I.B., was admitted into No. 2 Australian General Hospital on October 8, 1917, having been wounded in the chest four days previously by a rifle bullet. The entrance wound was small, and situated anteriorly on the left side, just outside the nipple line and immediately below the third rib. The wound of exit was also small, and was situated posteriorly on the right side, immediately below the inferior scapular angle in the eighth interspace.

He was knocked over by the impact, and immediately noticed that he had no power of feeling in the left leg, while in the right leg a sensation of "pins and needles" existed as high as the right flank. A few hours after his injury the power and sensation of the left leg returned completely.

Apart from a little hesitancy at the commencement of micturition, there had been no bladder difficulty, nor had there been any loss of control of the rectum.

**Chest.**—He had a considerable hæmoptysis soon after he was shot, and even at the time of admission his sputum was tinged with blood. The degree of dyspnœa was never severe, and did not last more than a couple of hours, and at the time of examination his respirations were quiet and easy. Surgical emphysema was present over the anterior and axillary regions of the left side of the chest, and a dull note of percussion was elicited over the left basal region, as high as the inferior scapular angle. Over this area the vesicular murmur and voice sounds were markedly diminished.

A good, resonant note on percussion existed over the whole of the right base, and a normal vesicular murmur and vocal resonance were audible. The heart's apex beat was not palpable, owing to the surgical emphysema.

**Neurological.**—A considerable degree of paresis of the right lower limb was determined, the patient being only capable of slightly flexing and extending the leg. The movements of the left leg were vigorous and free in every direction.

The right knee-jerk was not obtained, while the left knee-jerk was elicited and apparently normal. Both plantar reflexes were easily elicited, and were of the normal type.

The superficial abdominal reflexes were equal and active.

**Sensory.**—There was a complete absence of pain, thermal and cutaneous sensations over the whole of the left leg and thigh as high as the inguinal region.

On the right side of the abdomen over an area supplied by the sixth to the tenth dorsal segments, he complained of the sensation of heat and cold being excessive, while a band of hyperalgesia was mapped out, involving the segmental distribution of the tenth, eleventh and twelfth dorsal and first lumbar segments.

The lower right quadrant of the abdomen had a curious

<sup>1</sup> Since writing this paper, Colonel Harrison, has published his results in the *British Medical Journal*. He advises dissolving the novarsenobenzol in solution of glucose and stovaine, and the emulsion in creo-camph cream. He injects it intramuscularly. My results have not been satisfactory, and there is considerable pain following the injection in most cases, but I had not yet had enough experience of the method to form an opinion.



distended appearance, owing to the paresis of the lower flat abdominal muscles.

There was no disturbance of sensation (cutaneous, pain or thermal) of the right leg and thigh (see below).

The day after admission the area of hyperalgesia and hyperæsthesia extended on the right side of the abdomen, as high as the sixth dorsal segmental distribution. This very painful condition was a constant source of trouble to him for several days following, as he was unable to remain in one position very long; even the weight of his pyjamas and the bed clothes caused him much inconvenience.

On October 16 the area of hyperæsthesia of the right side of the abdomen was much less, and he was able to sleep better. By this time he had completely recovered the power of his right leg. A note taken on October 19 recorded the complete recovery of all types of sensation of the left leg, while the band of hyperæsthesia of the right abdomen involved the skin supplied by the tenth, eleventh and twelfth dorsal segments. No alteration could be detected in the power of either leg.

On October 22 the area of hyperæsthesia had still further lessened, and the localized abdominal distension had completely disappeared.

His cough, which had entirely left him for several days, recurred during the past three days. On examination, there was relative dullness at the left base, extending slightly into the axilla and over this area, and there was diminished vesicular murmur. The heart's apex beat was normally placed. The pulse-rate was 80, the temperature 36.6° C., and the respiratory-rate 20.

A note recorded on October 26 showed a rise of temperature to 37.8° C. for the previous two days. His cough (now with expectoration) was more troublesome, and his respirations were 30.

Dullness on percussion was now absolute at the left base, and extended well above the inferior scapular angle. There was a complete absence of breath sounds, vocal resonance and vocal fremitus.

The heart's apex beat was not palpable, but on auscultation it appeared to be under the sternum.

About 170 c.cm. of blood-stained fluid were aspirated; owing to the rapid clotting it was impossible to obtain more. Bacteriologically Friedländer's bacillus was demonstrated in smear and culture.

The eighth rib was resected in the post-axillary line and the pleural cavity drained. He then made an uneventful recovery.

On December 10 he showed no abnormal sensory disturbance of the right abdominal wall. He had complete control of his limbs, and his knee and ankle jerks were of the normal type. The patient was then evacuated to England, feeling very well.

I am indebted to Colonel H. A. Powell, C.M.G., for permission to publish the above notes.

**Report.**—The report of the radiographer (Captain Donald I. Smith) showed a comminuted perforation of the neck of the eighth rib and injury to the other right margin of the eighth dorsal vertebra.

#### A PENETRATING CHEST WOUND, WITH THE BULLET IN CLOSE APPPOSITION TO THE RIGHT VENTRICLE.

By A. E. Rowden-White, M.D.,  
Major, Australian Army Medical Corps;

and  
Donald I. Smith, M.B., Ch.M.,  
Captain (Radiographer), Australian Army Medical Corps.

C.W.S., aged 26 years, A.B., Royal Naval Division, was wounded in the right chest by a shell exploding within a few yards of him on October 12, 1917.

He immediately had a slight hæmoptysis and pain only on coughing, but had a slight degree of breathlessness for 24 hours. He was admitted 48 hours later to No. 2 Australian General Hospital. His temperature was 38.3° C., his pulse-rate 112 and his respiratory-rate 28. On examination, a small entrance wound was found 3.7 cm. from the mid-line on the right side posteriorly on a level with the tenth interspace. Dullness on percussion extended over the whole of the right

basal region, as high as the inferior scapular angle, with a complete absence of vesicular murmur, vocal resonance and fremitus. Above this area to the apex there was marked diminution of vesicular murmur. The heart's apex beat was not displaced, the cardiac rhythm was regular, and the sounds were clear in all areas.

**Screen Examination.**—The position of the heart, as also its size and shape, were found to be quite normal. The dome of the diaphragm on both sides moved freely with respiration. The left lung was normal in clarity, and the whole of the right lung showed a partial collapse only. The bullet was found lying close to the right ventricle, practically in contact with it, at a point 6.25 cm. deep to the right of the sternal margin, at the level of the fourth costal cartilage. It was found to oscillate sharply with each cardiac pulsation, through a range of 3 mm.

**Skiagram.**—This was taken with the central ray tangential to the heart wall, at the point nearest the bullet, and therefore showed its maximum distance from the heart (at the most 1.5 mm.). In all other positions its shadow overlapped that of the right side of the heart. Having no plant capable of taking instantaneous pictures, the definition of the bullet's shadow was spoiled by its movement to and fro with the heart.

A second examination was made one month later. The condition remained quite unaltered. On October 24, 1917, a note is recorded that, until the previous evening, he had been very comfortable, with a normal temperature and a quiet, regular pulse, the rate averaging 80 to 88. On the previous night he complained of severe pain in the right scapular region. Dullness on percussion and tubular breathing on auscultation were detected over the whole basal region, as high as the inferior scapular angle on the right side. The temperature was 38.8°, the pulse-rate 104, and the respiratory-rate 36. The heart's apex beat was found to be in its normal position.

On October 27, 1917, the temperature was 38.3° C., the apex beat of the heart was palpable just outside the nipple line. Dullness and tubular breathing were still present over the right base (as recorded on the 24th), but above this area amphoric breathing was audible.

On October 28, 1917, the temperature was 38.3° C. The patient complained of severe pains in the right axilla and in all his joints. A very small quantity of blood-stained fluid was obtained on aspiration, which gave on culture: (1) aerobic, a Gram-negative encapsulated bacillus, a thick growth; (2) anaerobic, a Gram-negative encapsulated bacillus, a slight growth. Both were 1µ to 2µ in length, and resembled Friedländer's bacillus.

On November 1, 1917, the ninth rib was resected in the post-axillary line, and 1,300 to 1,600 c.cm. of foul-smelling, blood-stained fluid were evacuated and the right pleural cavity drained. He afterwards made an uneventful recovery, and was evacuated to England on November 20, 1917.

We are indebted to Colonel H. A. Powell, C.M.G., for permission to publish the above notes.

#### OLD DOUBLE DISLOCATION AT THE ACROMIO-CLAVICULAR JOINTS.

By W. Atkinson Wood, M.D., M.S., D.P.H.,  
Honorary Surgeon, Children's Hospital, Melbourne.

R.R., æt. 28 years, a returned soldier, fell down a hatchway, in 1915, and dislocated the right acromio-clavicular joint. This was reduced and bandaged and the joint kept in position for a year.

In March, 1916, he was thrown from his horse, which rolled on him and dislocated his left acromio-clavicular joint. This was reduced and kept in position with a bandage.

In September, 1916, he was hit on the right shoulder with the butt of a rifle. This redislocated the right joint, and a mate reduced and bandaged it.

In April, 1917, when coming out of action, his horse fell and rolled on him and re-dislocated both acromio-clavicular joints. He was treated for some months at the hospital, but the joints have never stayed in position since.

The photograph I. pictures his present condition, and when I first saw him he was working at the Base Records Office, where he could not put up his arms to get a book from the shelf without the joints locking and "clocking,"

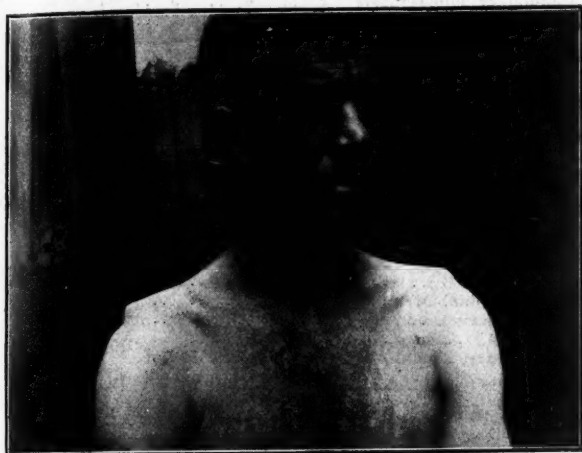


Figure I.

which caused great pain in the joints, running down the clavicle towards the supra-sternal notch. This pain lasted for an hour before it gradually passed off.

In swinging his arms in walking he got considerable pain in his "funny bone," and the weight at the arms dragged his shoulders so that they were always aching.

I originated the apparatus seen in the photograph II.



Figure II.

with pieces of bicycle tube passing from the elbow to the shoulder yokes, which are united behind by a shaped iron piece rivetted to the metal of the shoulder pieces. These pieces are kept in position by bicycle tubes crossed over the chest. The whole apparatus is home-made, and perhaps rather clumsy, but it is efficient, as he can now suddenly elevate his arms above his head without locking and with confidence. He has also lost his ulnar nerve pain and shoulder aches in walking, and feels an elastic support to the arms. When dressed the apparatus does not show, and his braces act as an extra band to keep the shoulder pieces in position.

He informs me that another man in Egypt had a similar deformity on one side, and that an apparatus was fitted in

which the arm bracelet encircled the upper arm; this was constantly slipping up and was useless. In this apparatus the bracelet encircles the elbow and cannot slip up.

## Reviews.

### MIDWIFERY BY BRITISH TEACHERS.

The character of the recent publication, "Midwifery," by ten teachers,<sup>1</sup> under the direction of Dr. Comyns Berkeley, is sufficiently guaranteed by the names of the contributors, the majority of whom have already asserted their individuality by producing work of high repute both in obstetrics and gynaecology. It is, however, from a student's point of view that the enterprise of this work is so deserving of recognition, for, as stated in the preface, "The writers are all teachers in London medical schools, representing eight 'general' and the three large 'lying-in' hospitals, and, consequently, well qualified to propound the science of midwifery, transferred at last from the domain of the physician to that of the surgeon."

Naturally, much of the context is familiar to readers of the older text-books, but the system by which the various sections are paragraphed, renders it pleasant reading, and at the same time serves to concentrate the attention of the student struggling for the first time to master the not least important branch of his medical curriculum. Attention to detail is evidenced even in such a minor matter as referring to the duration of pregnancy in "weeks," in preference to the unscientific and misleading custom of months, as in many of the older works on this subject. The section on the new-born child bristles with valuable information, though the likelihood of our Continental cousins agreeing to the banishing of the incubator for a clothes-horse and blanket is hardly probable in the face of the magnificent results that have attended their attempts to retain life in the frailest of premature bodies, as demonstrated in the *Clinique Tarnier* of Paris and *Frauenklinik* in Berlin, where the incubator department is quite one of the features of these hospitals. It is also pleasing to note in the year of grace 1917 that the orgy of frightfulness known as the "Schultze" method for the resuscitation of the asphyxiated infant is missing and more rational lines of treatment advocated. The prominent place given to the pathology of morbid conditions is another very pleasing feature in this work.

Seeing that in obstetrics, as in other branches of surgery, each case is a law unto itself, it is difficult to lay down hard and fast lines of treatment for the various abnormalities and complications. Especially is such a difficulty noticeable in the sections on eclampsia and ante-partum hæmorrhage. The reader is supplied in these sections with such a wealth of possibilities and suggestions that it would require practical experience to enable him to sort out a definite course of action to pursue successfully. In a work especially written from a student's point of view, it is better to err on the side of brevity of direction than bewilder with a confusion of methods. The brief chapter on tumours complicating pregnancy, the sections comprising the mechanism and management of both normal and abnormal labour, together with carefully arranged illustrations, are some of the most attractive features of this work.

The chapter devoted to obstetric operations is somewhat disappointing, the authors contenting themselves with following on the conservative lines existing in Great Britain for quite an indefinite period, with apparently but little desire to emulate the more scientific teachings of our Continental cousins of modern times.

The sections on the use of pituitary extract and morphine-hyoscine narcosis are welcome, as an advance on previous writings, and the out-spoken manner in which the authors condemn the indiscriminate use of the so-called "twilight sleep" makes most refreshing reading.

Taken altogether, this work, which is of moderate size, well printed and excellently illustrated, should indeed fulfil the hope (expressed by the authors in their preface) of not only being useful to the student before, but also to those who have passed beyond the stage of examination.

<sup>1</sup> Midwifery by Ten Teachers, Edited by Comyns Berkeley V. Russell Andrews and J. S. Fairburn; 1917. London: Edward Arnold; Royal 8vo., pp. 736. Price, 18s. net.

## Public Health.

## NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales during the week ending March 16, 1918:—

Disease.	Metropolitan District.		Hunter River District.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.	
Enteric Fever	8	2	0	0	27	3	35
Scarlatina	9	0	1	0	9	0	19
Diphtheria	59	2	4	0	53	0	116
Pul. Tuberculosis	31	6	2	0	0	0	33
C'bro-Spl. Menin.	0	0	0	0	4	2	4
Poliomyelitis	0	0	0	0	1	0	1

\* Notifiable only in the Metropolitan and Hunter River Districts, and, since October 2, 1916, in the Blue Mountain Shire and Katoomba Municipality.

## VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending March 17, 1918:—

Disease.	Metropolitan.		Rest of State.		Total.
	Cs.	Dths.	Cs.	Dths.	
Enteric Fever	11	0	7	0	18
Scarlatina	14	0	30	0	44
Diphtheria	50	1	38	2	88
Pulmonary Tuberculosis	33	5	12	1	45
Poliomyelitis	15	—	10	—	25

## QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending March 16, 1918:—

Disease.	No. of Cases.
Enteric Fever	19
Scarlatina	10
Diphtheria	40
Pulmonary Tuberculosis	7
Cerebro-spinal Meningitis	2
Erysipelas	2
Puerperal Fever	1

## SOUTH AUSTRALIA.

The following notifications have been received by the Central Board of Health, Adelaide, during the week ending March 9, 1918:—

Disease.	Adelaide.		Rest of State.		Totals.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever	0	0	3	2	3	2
Scarlatina	0	0	6	0	6	0
Diphtheria	1	0	20	1	21	1
Pulmonary Tuberculosis	2	1	15	3	17	4
C'bro-Spl. Meningitis	0	0	1	0	1	0
Erysipelas	0	0	0	1	0	1
Morbili	0	0	2	0	2	0
Pertussis	0	0	6	0	6	0
Favus	0	0	1	0	1	0

## WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending March 2, 1918:—

Disease.	Metropolitan.		Rest of State.		Totals.	
	Cs.	Dths.	Cs.	Dths.	Cs.	Dths.
Enteric Fever	12	—	6	—	18	—
Scarlatina	2	—	1	—	3	—
Diphtheria	9	—	8	—	17	—
Pulmonary Tuberculosis	4	—	4	—	8	—
Bilharziosis	1	—	0	—	1	—

## TASMANIA.

The following notifications have been received by the Department of Public Health, Tasmania, during the week ending March 16, 1918:—

Disease.	Hobart. Cases.	Launceston. Cases.	Country. Cases.	Whole State. Cases.
Enteric Fever	2	0	1	3
Scarlatina	0	1	0	1
Diphtheria	2	5	15	22
Pulmonary Tuberculosis	2	0	5	7
Poliomyelitis	0	1	2	3

## NEW ZEALAND.

The following notifications have been received by the Chief Health Officer, Department of Public Health, Hospitals and Charitable Aid, New Zealand, for the four weeks ending March 4, 1918:—

Disease.	No. of Cases.
Scarlatina	103
Diphtheria	347
Enteric Fever	59
Pulmonary Tuberculosis	88
Poliomyelitis	1
Puerperal Fever	2
Erysipelas	5
Cerebro-spinal Meningitis	2
Septicæmia	1
Hydatids	7
Ophthalmia Neonatorum	3

## Naval and Military.

## APPOINTMENTS.

It is announced in the *Commonwealth of Australia Gazette*, No. 41, of March 21, 1918, that Temporary Surgeon John Smith, M.B., R.N., has been appointed Surgeon in the Naval Forces of the Commonwealth for temporary service, as from May 11, 1917, with seniority in rank of July 20, 1915.

It is with great regret that we have to record the death of Dr. George Lane Mullins, which took place on March 19, 1918. A military funeral was accorded him, and was attended by a very large number of sorrowing friends and representatives of many organizations.

## THE DAVID BERRY HOSPITAL.

Our attention has been called to an ambiguity occurring in the report for 1915 of the Secretary of the David Berry Hospital and also in the summary of this report, which appeared in our issue of March 9, 1918, pp. 202-203. In the original report there is a paragraph as follows:—

*Operations.*—The operations for the year totalled 75, as against 56 in 1914, the doctors from Nowra assisting on 57 occasions were as follows: Dr. Ewing 17, Dr. Foy 26, Dr. Rodway 25, Dr. Hill 7, and Dr. Molesworth 2.

We were led to assume that these practitioners assisted the Medical Superintendent in the performance of the operations. It appears that the operations were actually performed by the Medical Officer, Dr. K. Goergs, except on two occasions, when Dr. Molesworth operated. In the remaining 55 operations the Nowra practitioners acted as anaesthetists. Dr. K. Goergs has recently changed his name to Dr. C. W. George.

## THE COLOUR OF GALYL.

We have been informed that several practitioners have noticed that the bright yellow colour of a typical sample of galyl is sometimes replaced by a chrome yellow, a greenish yellow or even a green. Enquiries have been made of the Anglo-French Drug Company, Limited, and we are now informed that galyl contains a very minute quantity of iron, which is responsible for the variation in colour. Changes from yellow to chrome or green are of no significance. On the other hand, changes to black indicate that dissociation has occurred. The solution should be either yellow, greenish-yellow or reddish-yellow, and should be limpid. A black colour or any turbidity of the solution should be regarded by the practitioner as a warning that the material should not be used.



## The Medical Journal of Australia.

SATURDAY, MARCH 23, 1918.

### The Care of the Sick Poor.

The medical profession in Tasmania is at present faced with a problem bristling with difficulties. The future of the profession depends on the attitude of its members and on the reliance they are prepared to place in the Council of the Tasmanian Branch of the British Medical Association. Some months ago there was practical unanimity when the Council took the extreme step of asking every member of the honorary staffs of the public hospitals to resign his position as the only reply to the refusal of the Government to exclude well-to-do patients from the hospitals. The medical profession has always regarded public hospitals as places where the sick poor may receive gratuitous care and treatment. The poor have been led to regard the hospitals as places where the most experienced and most skilled practitioners would render the same services gratuitously as they rendered elsewhere to the wealthy, for fees often amounting to substantial sums of money. The reasons that have actuated members of the medical profession to accept honorary positions at public hospitals were in the first place the fact that practice in a hospital, being conducted before a critical spectator, constitutes the best possible school of experience, and, in the second place, the dictates of humanity demand that the poor should not be penalized in this connexion. Grave exception is taken to an abuse of hospitals by the admission of well-to-do persons because this involves an exploitation of the medical profession, and because it means that the sick poor would necessarily suffer if a demand were made on the accommodation provided for them and on the gratuitous services of the medical staff. In a small community, like that of Launceston or Hobart, there is a further serious objection to the admission of well-to-do persons into hospitals. As a result of the large hospital practice, the salaried medical

superintendent gains so great a reputation as a surgeon that patients are disinclined to consult the other surgeons in the cities.

In October of last year the Chief Secretary introduced a Hospitals Bill for the purpose of placing these institutions on a sounder foundation. We commented unfavourably on the provisions of this Bill, and pointed out that unless the clauses dealing with the admission of patients were materially altered, no member of the British Medical Association could accept a position on the honorary staffs of the hospitals. This assertion was founded on the policy adopted by the governing body of the British Medical Association in England, by the Australasian Medical Congress, by the Branches of the British Medical Association in Australia and by the Federal Committee. In these circumstances, the Tasmanian Branch opposed the Bill on this ground, among others. A private conference took place with the Premier some weeks ago, at which the Branch representatives were asked to accept Clause 49, subsection 2 (according to which every hospital board shall provide adequate accommodation for any sick person), on the understanding that certain regulations would be introduced as concessions. The nature of these so-called concessions has not been made public. They were, however, directly opposed to the principles which the British Medical Association has been at pains to uphold. At a meeting of the Branch, held on March 12, 1918, it was resolved that the members could not accept the subsection referred to. The Premier has since been informed that the Branch would give very favourable consideration to any proposal he might make, by means of which the Bill could be modified so as to exclude well-to-do persons from admission into hospitals.

At the present time the sick poor of Tasmania are suffering from the *faux pas* of the Government in having appointed to the staff of the Hobart General Hospital the only men who were willing to accept the positions in defiance of the resolution of the whole Branch. It is obvious that these practitioners would not have been placed in these positions had the Government been able to select the most suitable men in Hobart. Recognizing that the sick poor are labouring under grave disadvantages, the members of the Branch have now expressed their willingness to

the Premier to give their services without remuneration to those hospital patients who are unable to pay. If this offer be rejected, the responsibility for any harm that may befall the sick poor in the Hobart Hospital, must be borne by the Government. It is no light burden to carry. The medical profession throughout the British Empire claims that hospitals are charitable institutions, that they have been established for the purpose of providing the indigent sick with the best medical care and treatment available, that the members who are appointed to honorary positions, are prepared to give gratuitously their best services to the poor and to refuse to accept fees from any patient in the public general hospitals, and lastly that these services necessitate that the profession should have representation on the boards of management of the hospitals. The Premier of Tasmania will continue to meet with opposition from the medical profession, as long as he refuses to recognize these principles.

#### THE TEACHING OF PATHOLOGY.

The medical profession exists for the purpose of improving the health of the community, of preventing disease where this is possible and of curing it when it occurs. Years of patient research, a vast amount of energy and ingenuity and much observation has led to the acquisition of some knowledge of disease. The medical profession is still unable to discharge its functions fully. The preservation of health can only be achieved under given favourable conditions. But few diseases can be prevented. And cure of disease is a rare accomplishment. While the power to cope with disease is limited, it must be admitted that important advances have been made during the past few decades, and medical practice is gradually being placed on a sound foundation of scientific knowledge. The prospects are excellent, and there are unmistakable signs that each generation of practitioners is becoming more capable of attacking the difficult problems involved. The rate of progress depends to a large extent on the manner in which medical students are trained and on the encouragement which is given to them to develop a spirit of enquiry. In our three Australian Universities with medical schools the subject of physiology

is taught well by capable Professors. The whole of medicine and its allied sciences are based on physiology, and consequently physiological thought and a good understanding of the chemical and physical basis of the functions of organs and tissues are essentials. Next to the study of the science of the normal working of the body come the study of the disturbances of function. We may call this pathology or any other general term, but it should be recognized that the chemical, biological and physical causes of altered structure and function, and the chemical, biological and physical changes which these causes produce, should be included. No progress is possible unless a profound study is made of the essence of disease. The practitioner cannot hope to prevent or cure disease or to ameliorate the results of abnormal conditions unless he has dipped deeply into the theoretical aspect of pathology. In these circumstances, we find it difficult to reconcile ourselves with the fact that the Adelaide University has no Chair of Pathology and that the subject is not taught to students in an adequate manner. No reform is more urgently needed than that of organizing the teaching of the science of disturbances of the normal physiology of the human and animal body. Descriptions given in text books of the nature and causation of disease must prove sterile, since they cannot convey to the student a proper conception of the processes contributing to the various pathological conditions. Mere pathological anatomy, as taught in the post-mortem room, only touches the fringe of the science. Properly equipped laboratories are needed, where the student may participate in well-planned investigations into the causes of disease, where he can penetrate some of the mysteries of the bio-chemical changes which form the essential characters of disease, and where he can trace the parasitic causes of diseases from their entrance in the body to their ultimate destruction, or to their victory over their host. In a well-organized department of pathology, there should be provision for instilling into the minds of the student the lesson that the primary object of the practitioner should be to prevent disease, and that his ability in this direction will depend largely on a thorough understanding of the processes underlying the pathological states. He should be urged to exercise his in-

genuity to combat the noxes which impair the normal processes of the organs and tissues, for every advance of this kind has an infinitely wider application than any achievement in the direction of curative medicine. Great care should be exercised to avoid indifferent teaching, for unless enthusiasm be instilled into the lectures and demonstrations, the class work will become uninteresting and monotonous and the impetus to progress killed at the outset. The Professor should be more than a worker in a laboratory. He should be an intelligent expert, and he should have at his right hand, expert assistants, who would be competent to relieve him of the teaching of some of the many branches of this paramount science.

#### THE RECOGNITION OF THE MORON.

Dr. William H. Higgins, the Director of the Psychopathic Clinic at Richmond, Virginia, United States of America, has contributed a powerful intercession for the high-grade mental defective, and at the same time has given his colleagues an indication to enable them to recognize this condition.<sup>1</sup> We commend his doctrines to our legislators, in whose hands the problem of the proper care of the mentally defective and the protection of the public from the irresponsible acts of those unfortunate individuals, necessarily rest. He starts his article with the sentence: "The revelation that crime and mental deficiency are often interrelated, or that business failures are not always due to economic fluctuations, has brought to the medical profession a subject for serious consideration." In Richmond backward school children are classified in four groups. The normal child may become backward because of illness or the want of proper schooling. Some children, whose mentality is to be regarded as normal, learn more slowly than an average child. The third group comprises children who fall behind as a result of improper environment and the lack of constructive sympathy. These children are normal, but are educated under abnormal conditions. The fourth group embraces the mental defectives. When the mental deficiency is well developed, there is no difficulty in the diagnosis. It is patent to all that the cretin and the low grade imbecile have ill-developed minds. Minor disturbances of the endocrine glands, however, may present few obvious signs of abnormality, and it requires a trained and close observer to recognize the defect of the mind in such an individual. In investigating the mental condition of a refractory child or of a criminal, or indeed of any person whose conduct justifies the faintest suspicion of mental deficiency, great care should be taken to elicit all that is known of the family history and of the history of the patient's early life and school days. Dr. Higgins

emphasizes the point that while a positive evidence of hereditary is a valuable diagnostic sign, the absence of all records of mental defect in the family should not be relied on, since there is a strong tendency on the part of relatives to suppress the suggestion that there is a mental taint in the family. In the next place he attaches importance to the social reactions. Cruelty, selfishness and the absence of congeniality, the presence of perversions, the tendency to destructiveness and the habit of vagrancy are all signs of a disturbed social reaction. In the aetiology of mental deficiency syphilis, defects of the endocrine glands, and ancylostomiasis are found to play important rôles. He informs his reader that the serum of 30% of the children brought to his clinic yielded a positive Wassermann reaction. The retardation of the mental development in children infested with the hook worm is an established fact. Fortunately this form of mental defect is accessible to treatment, for the children, after efficient treatment of their ancylostomiasis, become normal children again. In each case a detailed and careful analysis from every point of view must be carried out. The trained psychologist is able to detect latent defects which others will fail to discover. Dr. Higgins discusses the value of the various methods of testing the intelligence of a suspected individual. He finds that the Binet-Simon tests at times fail to disclose the higher grades of mental deficiency. Terman's revised tests, he states, are of greater value for this purpose. We would add that the Porteus test, enabling the observer to assess the capability of the individual to profit by experience and to employ his powers of observation as it does, will often demonstrate latent defects, where the Binet-Simon tests fail. The moral of this article is that provision should be made for the adequate training of medical practitioners in this special branch of psychology, that the public should be familiarized with the fact that crime and vice are often dependent on mental deficiency, and finally that the moron remains a danger to himself and to those with whom he comes in contact, unless the State intervenes and provides for his control throughout his life.

#### THE PROPHYLAXIS OF PNEUMONIA.

Active immunization with the bacterial cause of disease is an accomplished fact. Ever since Jenner demonstrated the possibility of an artificial immunization with the virus of vaccinia against variola, the possibility of an immunization of a susceptible animal against a bacterial or protozoal disease has been recognized. The extraordinary success of antityphoid inoculation has led bacteriologists to seek a similar prophylaxis for other infective processes. There is a fundamental difference between the attempt to cure an established infection by means of injections of killed bacteria and the endeavour to prevent the disease by the same means. In the former case it must be assumed that the disintegration products of the bacteria which act as antigens, are already present within the infected organism, so that the introduction of additional antigen need

<sup>1</sup> *The Journal of the American Medical Association*, January 12, 1918.



not lead to the production of a proportionate amount of antibody. Moreover, the antibodies called into existence would have a different task to accomplish when the disease is already developed than before the bacterium has invaded the body. Notwithstanding the fact that pneumococcal vaccines have failed to yield satisfactory results in the treatment of disease, there is no reason why the injection of killed pneumococci should not effect a complete protection against infection. Dr. F. S. Lister, who has been engaged in a prolonged study of the bacteriology of lobar pneumonia affecting the natives employed in the gold and diamond mines in South Africa, goes considerably further, and claims that a highly specific immunity can be established toward each type of pneumococcus.<sup>1</sup> He has found that approximately 70% of all cases of pneumonia among the natives in the mines are due to one of three groups of cocci, while he has isolated and studied eight other forms derived from these patients. The differentiation is established by means of biological reactions. Carrying his observations and experiments into practice, he prepared vaccines from the three most prevalent groups and inoculated practically the whole of the native population of the Premier Diamond Mine in November, 1916. It appears that the workers in this mine had been inoculated with an undifferentiated pneumococcal vaccine in 1912. The pneumonia incidence in this mine rose from 70.71 per thousand, in 1908, to 153.54, in 1910, and then fell to 128.98, in 1911. In 1912 and 1913, the years of the first prophylactic inoculation, the incidence fell to 67.68 and 31.75 per thousand of population respectively. The mine was closed during 1914 and 1915, and in 1916-1917 the experimental period, the incidence proved to be as low as 4.67 per thousand. The tests carried out in the Crown Mines were a little complicated. In 1912 a large number of natives were inoculated with an ordinary vaccine. The incidence rate, which had been about 34 per thousand during the two preceding years, sank to 23.2. It would be necessary to show that the rate had been consistently higher during a long series of years, before the reduction could be regarded as a result of the inoculations. In 1913 about 60% of the natives were again inoculated and the incidence rate rose to 28.86. In 1914 every alternate miner, on joining the mine, was inoculated with a vaccine prepared from the five types of pneumococci isolated in the South African mines. The incidence for the year was 26.48 and for the following year was 41.17. In October, 1915, the inoculation of the whole native population with Lister's vaccine was begun. The inoculations were completed by the end of December and the incidence rate for the year was registered at 24.82. From February 1 to October 31, 1917, all new arrivals received three inoculations with a vaccine prepared from the three common types, and in this period the incidence is given at 13.89 per thousand per annum. It is certainly striking that the author failed to recover pneumococci of the three common types in any of the 82 cases which

occurred in this period. In 30 instances the type was unclassifiable and in two the bacteriology was not investigated. In the remaining 50 cases pneumococci of one or other of eight other types were recovered. Somewhat similar experiments were conducted in the De Beers Diamond Mines. There was an apparent reduction in the incidence of pneumonia, coincident with the protective inoculations. From the results of his experiments and observations, Lister is prepared to conclude that vaccination with special types of pneumococci induced a complete immunity against pneumonia caused by the types used. The evidence in favour of this assumption is certainly strong, but before it can be accepted as conclusive proof, confirmation must be added that the types or groups differentiated by Lister are real and not artificial, and further, that the characteristics by which these types can be differentiated, are constant and sufficiently distinct to permit of general recognition. If other observers can confirm these findings, the work of Lister in the South African mines will lead to a complete revulsion in the methods of handling widespread occurrence of pneumonia.

#### THE VITAMINES OF WHEAT.

The occurrence of cases of beri-beri among soldiers serving in the Dardanelles and in Mesopotamia, has led to some careful researches<sup>1</sup> on the vitamins of wheat grains by Miss Harriette Chick and Miss E. M. Hume. Owing to the military situation, many persons in these areas lived for long periods on tinned meat, jam and white bread or biscuit made from white flour. It has been known for some years that the vitamins in meat and vegetables are destroyed at the temperatures employed in canning these articles. It has not, however, been suspected that bread or biscuits are lacking in anti-neuritic vitamins. As much evidence has been obtained to show that beri-beri is to be regarded as a deficiency-disease, the occurrence of these cases has provided presumptive evidence that the diet has been at fault.

Modern "roller" milling effects a perfect separation of the embryo, pericarp and endosperm of the grain of wheat. The pericarp, being brittle, is broken into fragments and constitutes the wheat-bran, the embryo germ is squeezed flat and forms the wheat-germ, while the endosperm freed from the aleurone layer which adheres to the pericarp, constitutes white flour. Experiments have been made upon pigeons with these products and the results have been compared with those obtained with various parts of rice and maize grains. White flour is deficient in the anti-neuritic vitamins, and if it be used as an exclusive diet will induce polyneuritis in pigeons in a manner identical with polished rice. The anti-neuritic vitamin is present in the wheat germ and, to a less extent, in the wheat-bran. In these respects the wheat grain resembles the rice grain in which the vitamin is concentrated in the embryo and pericarp. The embryo of the maize grain possesses active anti-neuritic properties. In this grain the scutellum can be separated from the

<sup>1</sup> Publications of the South African Institute for Medical Research, No. X., November 10, 1917.

<sup>1</sup> Proc. Roy. Soc., London, B., Vol XC., pp. 44 and 80, December, 1917.

plantlet. Both portions of the embryo are rich in vitamins. These results make it evident that the germ should be included in the flour from which bread or biscuit is made, especially when the diet is likely to be deficient in vitamins from other sources.

Experiments have been made to ascertain how much of the wheat-grain must be added to the diet to prevent the onset of neuritic symptoms in pigeons fed on an exclusive diet of polished rice. These experiments have led to the interesting discovery that the amount added to the daily ration must be of the same order as the quantity administered for curative purposes to a pigeon made acutely ill by an exclusive diet of polished rice. The interpretation of this fact is difficult. It is suggested by these investigators that there is an urgent daily need for a small quantity of the food hormone to maintain the metabolism of the nervous tissues, that a store of this substance exists in the normal animal body, and that this store is suddenly exhausted during feeding with an exclusive diet, but can be restored by the administration of the material in the diet.

Some investigations have also been made on the temperature at which the vitamin in the wheat-germ is destroyed. The anti-neuritic properties of the wheat-germ are not appreciably diminished by exposure for two hours to a temperature of 100° C. As this temperature is not exceeded during the baking of bread or biscuits, no significant loss of vitamins is occasioned during the cooking of flour. The vitamins of the wheat-germ are, however, rapidly destroyed at a temperature of 120° C. These results show conclusively that whole meal flour and "standard" flour have definite nutritive qualities not possessed by white flour. These qualities are not of great importance where fresh meat and vegetables are included in the daily ration. Where canned meat and vegetables are used freely in the diet, the use of whole-meal or "standard" flour will be a wise precaution against any deficiency in the anti-neuritic vitamin. These experiments also afford valuable evidence that the cases of beri-beri in man are the result of a deficiency in the substance the lack of which occasions polyneuritis in birds.

#### THE PATHOLOGY OF HODGKIN'S DISEASE.

Hodgkin's disease has long been recognized as a distinct disease entity, although there is still much uncertainty regarding its true pathogeny. About twenty years ago it was freely held that it was a tubercular infection of the lymphatic apparatus. No direct evidence was adduced in favour of this view and Steenberg's theory is now regarded as having been based on a series of cases including many erroneously diagnosed as Hodgkin's disease. Muir and Cunningham, among many others, have brought forward arguments tending to show that it is an infective process, and Bunting and Yates have associated a diphtheroid bacillus with it. It has further been suggested that Hodgkin's disease, lymphatic leukaemia, Banti's disease and lymphoma are different manifestations of the same pathological process. Against this view many observers have opposed the fact that the arguments in favour of Hodgkin's disease being an infective process, do not

apply generally to the other affections. Recently it has been shown that in certain cases the blood picture at one stage may be identical with that of lymphatic leukaemia, and the structure of the glandular tumours may change from that of lympho-sarcoma to that of lymphadenoma. While it is not unknown that the blood picture in Hodgkin's disease varies considerably from the typical mild anaemia with a slight lymphocytosis and a moderate eosinophilia, the majority of observers have recorded blood changes of a comparatively constant type. The disease is held by some to be a form of malignant neoplastic disease, since in the advanced stages metastatic tumours are seen in situations normally devoid of adenoid tissue. Channing C. Simmons and George Benet,<sup>1</sup> who have studied a series of 19 cases within three years, point out that the failure to transplant pieces of the enlarged glands into monkeys and guinea-pigs suggests that the lymphatic growth is not of the nature of a malignant neoplasm. It should, however, be remembered that the failure might be regarded as evidence against the infective theory. They give clinical and pathological evidence of a strongly suggestive character that there are essential differences between Hodgkin's disease and lympho-sarcoma. Unfortunately they have not followed out the obvious method of determining whether the diphtheroid bacillus found in these cases, stands in a causal relation to the disease. Mere association is insufficient to prove causation. Biological reactions such as agglutination, complement deviation, and the protection afforded by the serum of an infected person against experimental infection, are available for testing the pathogenicity of a bacterium in any disease. The account published by these authors is corroborative of the conception of Hodgkin's disease being a disease entity. The differentiation from lympho-sarcoma and other lymphatic affections can only be established with certainty by the microscopical examination of an excised gland, although the clinical signs of inflammatory affections of lymphatic glands may be sufficiently typical to render confusion unlikely.

#### AUSTRALIAN ARMY MEDICAL CORPS COMFORTS FUND.

We have been requested to publish the following letter, which has been addressed to the Honorary Secretary of the Army Medical Corps Comforts Fund:—

115 Pitt Street, Sydney,

13th March, 1918.

Dear Madam,—I acknowledge, with many thanks, receipt of the tabulated form issued to the Army Medical Corps Comforts Fund. The details furnished in this report are of great interest to the Committee, who congratulate you on the excellent record of work it presents. The statement forwarded by you is one of the most wonderful we have received, both as regards money contributed and gifts in kind. The total amount realized for other patriotic appeals is also quite astonishing, and is evidence of the zeal and enthusiasm of your workers.

It is comforting to know that the men of the Army Medical Corps, who are doing such a noble work for their country, are being cared for so splendidly.

Yours faithfully,

The Citizens' "War Chest" Fund,  
THEA MILNER STEPHEN,  
Secretary for Branches.

<sup>1</sup> *Boston Medical and Surgical Journal*, December 13, 1917.

## Abstracts from Current Medical Literature.

### OPHTHALMOLOGY.

#### (105) Treatment of Detachment of the Retina.

Ervin Török classifies cases of retinal detachment in two main groups: one where there is disproportion between the contents of the eyeball and its coats, and the other where this disproportion does not exist (*Archives of Ophthalmol.*, September, 1918). The first group includes cases of shrinking of the vitreous, and of extension of the sclera as in high myopia. In the second group are cases of exudates as in Bright's disease, or from injury. In this latter group cure is more likely to be expected spontaneously or with medical treatment. In the first class, where the contents of the eyeball are disproportionate to its coats, many operations have been devised with unsatisfactory results. Deutschmann first realized that not only should the sub-retinal fluid be removed but that the vitreous should be increased in similar proportion. He therefore injected the fluid into the vitreous after aspiration from the sub-retinal space. Later, he injected rabbit's or calf's vitreous into the vitreous chamber, and claimed 24.7% of cures. In 1903 Müller published his operation of excising a piece of sclera. The author's modification of the operation is as follows: Under anaesthesia a canthotomy is performed and the conjunctiva incised over the external rectus and dissected aside. The external rectus is divided between two catgut sutures. An elliptic space of about 20 mm. by 10 mm. is outlined by a scalpel, with the anterior border behind the insertion of the muscle and the posterior border towards the equator. The incision is carried half way through the thickness of the sclera and the superficial layers removed. Five sutures are inserted, double armed threads being used and the suturing being carried out from within outwards. The sutures are raised out of the way and the posterior border of the incision is carried through the sclera. The flaps are separated from the underlying choroid without wounding the latter. The choroid is then punctured and the sutures drawn together, uniting the anterior and posterior wound edges of the sclera, and insinuating in the scleral flap between the sclera and choroid. The sutures in the muscle are then tied and the conjunctiva closed. Very few of these operations have been repeated. The author has performed it in 11 cases, in the first six with no permanent results. In his later cases he has excised a large piece of sclera and has obtained better results.

#### (106) Protection of the Eye in Warfare.

R. R. Cruise divides eye injuries into two classes, (a) preventable and (b) non-preventable. (*Brit. Journ. of Ophthalmol.*, August, 1917). The non-preventable include all injuries by bullets,

injury by skull fragments of sufficient strength to fracture bones of the orbit, severe concussions, and other obvious war injuries. The preventable injuries are those caused by small particles of low energy, which perforate the globe. The percentages work out: preventable 58, non-preventable 42. The author's device is a visor of a transparent mesh of steel rings, fastened to the helmet. A picture is given. It has been accepted by the War Office and is now on its trial.

#### (107) Raised Intracranial Pressure in Pregnancy from Enlargement of the Pituitary.

T. Herbert Fisher reports the case of a woman of 30 years, who was five months pregnant and complained of mistiness of vision, severe headaches and diplopia (*British Journ. Ophthalmol.*, October, 1917). Her left external rectus was found to be paralysed and the vision in the left eye was less than  $\frac{1}{10}$ . The discs showed post-neuritic atrophic changes, and the fields were irregularly hemianopic. Later she was safely delivered of a healthy child and the symptoms disappeared, to return again when she again became pregnant. This pregnancy terminated at three months, and since then the patient had been well. In a former paper the author had pointed out that normally the pituitary body enlarges during pregnancy. In this case the enlargement was excessive.

#### (108) Circum-ocular Filariasis.

E. T. Stuckey reports a case of a Chinaman, aged 25, who complained of "worms" in his right eye (*Brit. Journ. Ophthalmol.*, September, 1917). The patient brought one in a bottle, and examination showed one in the upper fornix. Four were removed. H. S. Houghton gives a description of the parasite. The female was 14 to 15 mm. and the male 9 to 10 mm. in length and about 0.5 mm. in thickness. He also described specimens taken from a dog's eye which were similar, but smaller. These filariae have been observed in cattle in France, Belgium and India, causing verminous conjunctivitis and corneal opacities. The specimens are, in Houghton's opinion, varieties of *Filaria palpebralis*, Wilson, 1884, a nematode worm commonly affecting the eye of the horse.

#### (109) Functional Spasm of Accommodation.

Leslie Paton acknowledges the rarity of functional spasm of accommodation, and quotes several authorities who are sceptical of its existence (*Brit. Journ. Ophthalmol.*, October, 1917). He defines it as the sudden development of a high degree of apparent myopia which disappears under the influence of atropine. A case is described of a young lady who, at the age of 5 years, had slight convergence of the left eye and  $\frac{1}{2}$  D. of hypermetropia. Ten years later the eye was divergent and tenotomy of the external rectus was performed. Later again the squint was once more convergent, and an apparent myopia of 7

to 9 diopters developed, her refraction with atropine being about 1 D. of myopia. At the present time she can work for some weeks with the right eye without getting spasm, which, however, comes on when she uses the left eye. Sometimes the reverse condition holds. Since the war, the author has seen somewhat similar cases.

#### (110) Detachment of the Retina at the Ora Serata.

Arnold Lawson describes a case of a rare form of retinal detachment in a lieutenant of 23 years, who was suffering from concussion mydriasis in the left eye, vision  $\frac{1}{10}$  (*Brit. Journ. Ophthalmol.*, October, 1917). Three months later he suddenly lost the sight of this eye, and examination revealed that "a fine lace-like veiling, which focussing showed to be the retina, was hanging detached over the lower two-thirds of the picture, leaving a gap above it through which the choroid and its vessels were easily and plainly seen." The eye was examined by means of X-rays, and a small foreign body was localized near the outer ciliary bodies. The eye was enucleated, and on examination the retina at the *ora serrata*, with part of the *pars ciliaris retinae*, was found to be torn away from the ciliary body all round, except on the outer side of the globe. The track of the foreign body could be made out, and it was discovered that the subsequent contraction was the cause of the detachment.

#### (111) The Cause of Iritis.

Apart from the tuberculous and venereal and some rare forms of iritis, the focus of infection will generally be found in the mucous membrane of the upper air tract, and, according to John Dunn, the commonest origin of inflammation of the iris is a chronically infected tonsillar crypt (*Archives of Ophthalmol.*, September, 1917). A superficial examination of the tonsillar region is worthless; the anterior faucial pillar should be pulled aside and a blunt probe passed into each crypt, especially the uppermost one. On pressure a gruel-like purulent substance can be expressed from the crypt, and from this cultures may be prepared. Peridental inflammation may be associated with that of the tonsil. The author describes briefly eight cases, in some of which he claims to have obtained good results with a special preparation of mixed influenza sero-vaccine. In the majority of the cases the tonsils were removed in addition and other routine measures of treatment employed.

### LARYNGOLOGY AND OTOTOLOGY.

#### (112) Indications for Mastoid Operation in Acute Otitis Media.

If the drainage established by free incision of the drum in acute *otitis media* is insufficient, a mastoid operation is indicated, says Edward B. Dench (*Journ. Amer. Med. Assoc.*, September



15, 1917). Signs and symptoms indicating inadequate drainage are: (1) Pain. If after free myringotomy spontaneous pain in the ear persists for from 24 to 48 hours, and is sufficient to require an oplate, pain alone is sufficient indication for opening the mastoid. In this case the hemorrhagic variety of mastoiditis is found, and the mastoid cells are usually extensively developed. (2) Temperature. Some of the worst cases run afebrile courses; absence of fever is no contraindication to operation. (3) Local tenderness. A very valuable sign. Well-developed mastoids of the pneumatic type, with superficially located cells, may be exquisitely tender within 24 hours of onset of an acute otitis; this is no indication for operation. When tympanic drainage is established, the tenderness in many of these cases clears up after a few days. Antrum tenderness is very important, especially when recurrent; the initial tenderness, generally at the tip, disappears, the mastoid becomes insensitive to pressure for a few days, then tenderness becomes marked over the antrum. This type generally indicates posterior drainage. (4) Otoscopic examination. A persistent bulging of the upper and posterior portion of the drum, together with a sinking of the corresponding adjacent meatal walls, when present ten days after the inception of the acute infection, has an almost pathognomonic indication for operation. (5) Bacteriological examination. A smear from the aural discharge usually displays the predominating organism. A capsule round the existing organisms should be looked for. The presence of *streptococcus capsulatus* almost invariably demands operation by a posterior incision, though early incision of the drum membrane may obviate the necessity. The sudden cessation of discharge, with canal signs indicating interference with drainage, demands immediate operation. A very profuse discharge of more than three weeks' duration after incision of the drum membrane is also an indication for operative interference. (6) Duration of inflammatory process. An acute otitis, after incision of the drum membrane, should clear up in from ten days to three weeks at the utmost. A spontaneous rupture of the drum membrane, followed by purulent discharge lasting for four or five or six weeks, indicates operation. (7) Course following acute symptoms. After apparent recovery from an acute attack, certain indefinite symptoms such as headache, malaise, loss of flesh, indefinite muscular pains, impaired hearing, feeling of fullness in the ears, and perhaps some slight disturbance in equilibrium, may be complained of, and the history shows that the patient has never been well since the inception of the attack. Inspection of the canal will generally demonstrate a focus of disease. Exploratory operation is recommended. (8) History of repeated incisions. One single competent incision should drain the middle-ear and adjacent structures perfectly, if drainage is possible through so small an opening. A posterior operation is imperatively indicated, if the necessity for

repeating this incision arises. Repeated incisions are to be absolutely condemned. (9) Impairment of hearing. Whenever in a case of acute *otitis media*, either with or without solution of continuity of the drum membrane, there is a persistent profound impairment of function, operation is indicated. (10) Involvement of the static labyrinth. Vertigo and nystagmus, usually towards the diseased side, more rarely towards the opposite side, usually, though not invariably, mean an extensive infiltration of the bony structure immediately surrounding the labyrinthine capsule. Prompt operative interference is indicated. (10) Meningeal symptoms. Localized headache, usually indicating an extra-dural abscess, or severe general headache, a much more dangerous symptom, spinal fluid under pressure with a high cell count, an excess of globulins and a failure to reduce Fehling's solution, although not necessarily indicative of general meningitis, all imperatively indicate a complete mastoid operation and also the exposure of a large area of dura about the mastoid wound. (12) Roentgenoscopy. Always of great value, especially when the history is indefinite, e.g., a history of an attack or acute otitis several months prior to examination, followed by an almost complete cessation of aural symptoms, but with well-defined changes discoverable in the canal. In such cases a skiagram will generally locate a focus of pus. In doubtful acute cases the study of a series taken at weekly intervals will often enable a definite diagnosis to be made.

#### (113) The Campaign Voice.

Prolonged efforts of speaking cause congestion of, and strain on, all the nasal, pharyngeal and laryngeal structures, hence the speaker should prepare himself by breathing exercises giving maximum support to the voice with least effort. The superior costal elevation, with inferior costal and diaphragmatic respiration (described by Holbrook Curtis), full use of facial resonators, pitching the voice in, or slightly below, the middle register and well forward, speaking slower than usual with careful enunciation, strengthening the laryngeal muscles by singing for a few minutes, several times daily, such consonant phrases as *ming, mong, ding, dong, maw, mo*, etc., and throwing the voice to a spot well back in a hall, are measures which should be assiduously practised by the speaker. During a campaign the speaker should be seen by his medical adviser in mid-afternoon and after retiring. The earlier treatment includes cleansing of the nose and throat, and then laryngeal spraying of argyrol directly on the cords during deep inspiration, followed a few minutes later by a few deep inhalations of an oily solution. At night the throat is gently massaged for 15 minutes, alternating stroking movements to empty the jugulars, with rotary movements over the larynx, followed by 5 to 15 minutes' steam inhalation of the essential oils and balsam

in an alkaline medium. When the voice is getting bad silence or limited whisperings between speeches must be enjoined. The icecap is of use here, 30 minutes on and 30 off. A hand nebulizer with an oily spray, to which is added a little adrenalin, is given to the speaker for use just before his speech. Lozenges are of doubtful value, but a glycerine pastille of lactucarium soothes the pharyngeal mucosa and has a psychic effect. The application of iodine (*kali iodidi* 0.6 gm., *tr. iod.* 14 c.cm., glycerin, 42 c.cm.) to the pyriform sinuses and base of tongue, carefully avoiding any in the larynx, reduces the congestion. Deep inhalations of iodoform in ether are grateful for accumulated mucus in the inter-arytenoid spaces and trachea, or medicated oil dropped into the larynx with a proper syringe may be used. These do not cause relaxation of the cords as would steam. Half an hour's rest in the prone position should be insisted on before the evening speech. [L. D. Alexander, Jnr. (*Laryngoscope*, May, 1917.)]

#### (114) Hay Fever.

Hay fever is the most important and common form of hyperæsthetic rhinitis, and the recognition of the pollens causing it is desirable from both a therapeutic and prophylactic standpoint. Many cases of hyperæsthetic rhinitis of unknown origin are really due to atmospheric pollens, and are, therefore, true hay fever. The irritable effects of dust are often due to the presence of such pollens, which set up local and constitutional symptoms. In cases of illness in which an attack of hay fever would be a serious complication, the patient may be protected by having the windows of his room screened with thin cloth saturated with water, which arrests and dissolves any atmospheric pollens impinging on it. W. Scheppegrell (*Laryngoscope*, August, 1917).

#### (115) Vincent's Angina.

Pseudo-membranous and ulcerative angina should be studied in the laboratory, for the purpose of differentiating between diphtheria, syphilis and Vincent's angina, says Thomas Hubbard (*Laryngoscope*, November, 1917). In doubtful cases the dark field condenser will aid in distinguishing the spirillum of Vincent from *spirillum buccalis*, *s. dentium* and the *s. pallida*. He recommends the local treatment of Vincent's angina by powdered perborate of sodium rubbed into the crypts and necrotic tissue, a mild saline gargle like Dobell solution to remove debris, and glycerole of iodine (zinc iodide 2, iodine 3, distilled water 5, and glycerine 10) swabbed into all recesses with extraordinary care, to protect the margin of normal tissue. In cases that do not yield promptly to this treatment, he gives cacodylate of soda in doses of 0.1 to 0.3 gm., repeated in 24 or 48 hours. In the malignant type, not improving under the above treatments, he gives neo-salvarsan, 0.6 gm., intravenously.

## British Medical Association News.

### MEDICO-POLITICAL.

A special general meeting of the Victorian Branch was held at the Presbyterian Assembly Hall, Collins Street, Melbourne, on March 22, 1918, Professor R. J. A. Berry, the President, in the chair. There was a very large attendance.

The President informed the members that since December, 1917, the Council had met 14 times to consider the question of the dispute with the friendly societies, and the Organization Sub-Committee had held three meetings each week. It would thus be seen that the Council had not been unmindful of the welfare of the members.

Dr. W. R. Boyd gave a short account of the history of the Council's efforts to improve the conditions of contract practice in Victoria. He pointed out that in 1913 the Council was in negotiation with the Friendly Societies' Association concerning the introduction of a common form of agreement similar to the one which had been accepted in New South Wales by the friendly societies, after considerable opposition. The conditions of the agreement had been carefully considered by the Council, had been accepted by a general meeting of the members, and had been put before a meeting of delegates on two occasions. While these negotiations were proceeding leisurely in 1914, they were interrupted by the outbreak of war. It was not until three years later that the negotiations were re-opened at the request of the Council. This point required some explanation, as much adverse comment had been passed. At the last conference in 1914 it was definitely agreed that the postponement of negotiations should be "for the present," and not "for the duration of the war." It was held by some people that the meaning implied by the motion was that negotiations should not be resumed during the national emergency. Dr. Boyd pointed out that the reasons why they had been resumed were, firstly, that, after three years, it was obvious that the people in Australia were in a better financial position than they had ever been before. In the second place, it would be admitted that, since the people in Australia had rejected conscription, the effect of the national emergency was barely felt at all. In the third place, the Council had been made aware at the Annual Meeting in December, 1916, that the members demanded the resumption of negotiations. In the last place, the Ballarat Division had asked for permission to proceed with the adoption of the common form of agreement, and had intimated that, if their request were refused, there would be much dissatisfaction, and the matter would be brought for decision at a general meeting of the Branch.

Negotiations were therefore re-opened. The best offer that the friendly societies had made was a capitation fee of 17s. for city members and 24s. for country members. The friendly societies had intimated that they would not accept the income limit clause. The only other matter that was discussed was the extra 2s. 6d. for night visits. The Council had obtained the impression at the various conferences held with the representatives of the friendly societies that there was no hope that the lodges would agree to the terms which the Council had been instructed to demand. It was also evident that the Friendly Societies' Association did not represent the various orders, and that the orders had no control over the lodges in regard to the question of appointments and the remuneration of medical officers. It was therefore evident that the only means for enforcing their demand was to follow the example of the New South Wales Branch of the Association and to obtain the resignations of the medical officers of the lodges.

Dr. Boyd referred briefly to the experiences in New South Wales. After the Common Form of Agreement had been drawn up, a conference had been held by the delegates of the New South Wales Branch and the delegates of the friendly societies, under the chairmanship of Mr. Flowers. It was largely due to his tactful management that both sides expressed their willingness to accept the agreement. The delegates promised to go back to their committees and other bodies and to endeavour to carry out the agreement. The delegates of the New South Wales Branch did so, but the orders refused to accept the Common Form of Agreement.

Two months after the conference with the Friendly Societies' Association the Council had obtained the resignations of every man doing lodge work in the cities and suburbs and of 96% of those doing lodge work in the country. This practically unanimous vote removed from the minds of the Council any doubt that might have existed as to whether the members approved of the provisions of the common form of agreement and of the procedure which had been adopted, and convinced the Council that ultimate success was assured. The resignations were forwarded to the lodges, and then followed the most annoying political wire-pulling and bluff, engineered and promoted by the friendly societies and by a certain section of the press. He assumed that these tactics had had the object of attempting to scare the members of the Branch and of inducing them to accept less than they were asking.

In the next place, the conference with His Honour Justice Moule was held, and then the Prime Minister made the suggestion that the resignations should be held over for a month, although no reasons were given. Following this, a conference had taken place, in the presence of Mr. Bowser, between Mr. Mauger and himself. The effect of this conference was that he elicited the information that the establishment of institutes was not the solution of the difficulty. A further conference was held in Mr. Bowser's presence between the Presidents and Secretaries of the Victorian Branch and of the Friendly Societies' Association. The next step was the introduction into Parliament of a Bill, which, however, had been checked by the defeat of the Bowser Ministry. In this connexion Dr. Boyd dealt with the reasons which had impelled the Council to refuse to submit the matter to arbitration.

Lodge practice had ceased on February 1, 1918. Since that date, every effort had been made to undermine the loyalty of the members of the Branch. Many endeavours to start medical institutes had followed, and the daily press had been freely used for the purpose of securing the services of medical officers. Only one of their members had succumbed. Dr. Boyd stated that they had all regretted that this man should have been disloyal to his Association and disloyal to his colleagues. At Geelong three practitioners had accepted the position. These were Dr. Herbert Frederick Walker, of Beechworth, Dr. Charles Edward Barnard, who had done similar work in South Australia, and Dr. Shaw, from Western Australia. At Coburg, an additional appointment had been made just before the resignations had taken effect. The medical man appointed was Dr. James Weir, who was well known in many parts of New South Wales, and who was becoming known to the members of the Branch by his letters, which had appeared in the *Herald*. At Essendon they had appointed a medical practitioner from Tasmania. Dr. William Dalrymple Carnegie, of Richmond, and a Dr. Charles Frederick Ackland, of New South Wales, had been appointed at Clifton Hill. At Ararat Dr. William Patrick Hugh Parker, who was a medical officer in a lunatic asylum, had been appointed. At Prahran a recent graduate of the Melbourne University, who was, however, not a member of the Association, had been appointed.

After calling attention to the fact that the parent Association had sanctioned the proposal of direct contract practice, Dr. Boyd proceeded to deal with the objects of the present meeting. He stated most emphatically that it had not been called because they were in a difficulty. The resignations had been asked for as part of a definite scheme. The Council had new proposals to make for the consideration of the members. It was suggested that if the friendly societies did not come into line by March 31, 1918, the Branch should establish direct contract practice. If this were done, no other form of contract practice would be allowed, unless the approval of the Council in each specific instance were obtained. It had been reported that some of the members had been anxious concerning the prospects. While the Council recognized that this anxiety was quite natural, they urged members not to coquet with the other side, but if they had any difficulty, to seek assistance from the Council. There was no need to worry, as they had a large compensation fund to meet all contingencies. The fund would be used to the last penny.

Dr. J. R. Davis was asked to give the details of the scheme for direct contract practice, and to answer any questions which the members might wish to put to him. He began

by stating that the scheme had been drawn up on the basis of the common form of agreement. If the scheme were to be a success, it was first of all necessary to exclude all competition from the friendly societies. It was suggested that eligible members should be charged 32s. in the town and 38s. in the country districts. There were approximately 150,000 friendly society members at the present time. Dr. Davies stated that, at a moderate estimate, 100,000 of these members should be available for their scheme. The contributions would bring in £160,000 at the lower capitation rate. Of this sum, £100,000 would be paid to the medical men, £50,000 to the chemists, and £10,000 to the management fund.

It was proposed that a business man of good commercial standing and with a reputation as an organizer, should be appointed as manager at a salary of from £750 to £1,000 per annum. He would be responsible to a directorate consisting of three members of the Council. His duties would include touring through the whole State and arranging for the appointment of agents in country and suburban districts. The agents would be appointed after consultation with the local practitioners. The agents would collect the contributions quarterly and arrange the lists for each practitioner. There was to be no touting nor canvassing. Those persons who were desirous of becoming members would be shown a list of the names of the local practitioners, from which they would make their selection. They would be sent to the practitioner by the agent, just as they were now sent by the lodge secretary. The agent would be paid 2½%. An initial charge of £3 3s. would be made to all medical men who desired to participate in the direct contract scheme.

In reply to questions, Dr. Davies stated that private contracts between medical men and their patients would not be allowed, except at higher rates. There was nothing to prevent a private patient of one practitioner from going on to the contract list of another, if he were eligible under the common form of agreement.

Dr. J. Ramsay Webb moved:—

That the action of the Council and the scheme of contract medical practice proposed by them be approved.

Dr. R. Aitchison protested against the motion being put. He considered it preposterous to ask members to approve of a scheme with such meagre details.

Dr. Webb contended that he had a right to introduce the motion, and that it could be discussed later. He himself had only been acquainted with the proceedings of the Council during the past three years through the medium of *The Medical Journal of Australia* and of letters. Since his return, however, he had attended some half a dozen meetings of the Council. It appeared to him that the position at the present time was that an offer had been made to the friendly societies, and that there were no signs of acceptance. It therefore became the duty of the Council to devise a means of providing medical attendance to the wage-earner. He had had some experience of friendly society work, and was of opinion that the friendly society members would come in, without touting or undesirable methods being adopted. The scheme had only been outlined, but its success seemed to be assured.

Dr. J. Newman Morris seconded the motion. He held that the course followed was the best under the circumstances. The procedure which had been arrived at had been carefully thought out. He held that the insincerity of the Friendly Societies' Association had been obvious throughout the negotiations, but that it was never more apparent than at the present moment. They had asked the Branch to postpone the date of the resignations until the end of March, in order that the matter might be discussed at the annual meetings of the orders. In no instance had this subject been discussed at these meetings, and the only reference to it was in connexion with abuse that had been hurled at the medical profession. He recalled to the memory of the members that at the last meeting of the delegates the Council had been advised not to relax their efforts to obtain what they were demanding.

Dr. James Booth (North Melbourne) supported this scheme. He stated that at Broken Hill a scheme of the same kind had worked successfully in opposition to the lodges. He had been present in New South Wales during

the lodge dispute. They had held out, and had obtained all they had asked for. He pleaded for unity.

Dr. J. E. Andrew (Hawthorn) stated that he had intended to have moved an amendment to the effect that, pending the settlement of the dispute, each medical man should be allowed to make his own arrangement with lodge members. Although he did not see his way to vote in favour of the motion, he would not move the amendment. He suggested that the lodges should be given more time. He thought that it would take a considerable amount of time to get the scheme into working order. They should await the result of the Bill before Parliament. No coercion could be brought in. In the meantime, the lodges were bound by agreement to provide medical attendance for their members.

Dr. F. E. Langley (Dandenong) moved as an amendment:

That, subject to the approval of the Council, making of direct contracts be left to the doctors themselves.

He advocated 20s. for persons with incomes under £200 per annum, and 1% of the incomes for persons with incomes above that amount. The services should be the same as those provided for in the common form of agreement, and there should be the same payment for extras.

Dr. Andrew seconded the amendment.

Dr. F. D. Hayman (Ararat) considered that the whole scheme was absurd and unworkable, at any rate in the country. He moved as an amendment:—

That no action be taken in this matter until a referendum be taken of all lodge surgeons of the British Medical Association resident in Victoria.

Dr. W. A. Spring (Ballaarat) seconded the amendment. He contended that the notice of the meeting was so short that the country members were not represented. He was only prepared to support direct contract practice at present in districts where institutes had been formed.

Dr. H. P. Martell (Essendon) opposed the scheme. He thought that its adoption would wreck their position. The country lodges might be satisfied. They might hand back to the members their medical contribution and advise them to adopt the direct scheme. In this way the friendly society lodges in country districts where institutes were impracticable would be out of the fight.

Dr. R. A. R. Wallace (Coburg) was opposed to all forms of contract practice.

Dr. F. E. Webb (Hawthorn) was afraid that if the motion were carried, there would be a division of the members. He considered that the best course would be for the Parliamentary Committee to draw up a scheme for private contract. They should aim at unanimity, and, if delay would produce it, he counselled that delay.

Dr. Jas. Webb (Northcote) stated that he had only had two years' experience in Victoria. In America, contract practice was regarded as unethical. He maintained that ill-health was due to improper food, defects in ventilation or want of clothing. The Government threatened to coerce the medical profession. Why did they not coerce the baker, butcher or estate agent, and prevent illness, rather than coerce the medical men to patch up the patients?

Dr. D. Rosenberg (Richmond) opposed both amendments. He was convinced that there would be no finality as a result of the referendum. He regarded it as undesirable for a medical man to receive quarterly payments of 6s. If a man had 800 members, he would probably be required to write 600 prescriptions each quarter, when he was receiving these payments. He was delighted that the men were quite ready to sit tight. He supported the motion.

Dr. E. R. V. Huckell (Toorak) suggested that if the members had confidence in their powers of winning, there was no need to do anything further. He regarded the adoption of an alternative as a mark of cowardice. They were proposing to start an opposition contract practice, and this seemed to him to indicate a losing cause. He moved as an amendment that no action be taken.

Dr. Jas. Webb (Northcote) seconded this amendment.

Dr. W. Ostermeyer (Carlton) held that the motion was a double one, and that the second part imperilled the first. He contended that it was absurd to ask the members to accept a scheme after a few minutes' consideration. The scheme should have been submitted to the sub-divisions in the first place, and then to the meeting of delegates, as had been done in the case of the common form of agreement,



With the consent of the members, Dr. J. Ramsay Webb modified the motion to read as follows:—

That the general policy and actions of the Council of the British Medical Association in the lodge dispute be approved.

Drs. F. E. Langley and F. D. Hayman also obtained permission to withdraw their amendments.

The Chairman suggested to Dr. Huckell that he should withdraw his amendment and move it separately after the motion of Dr. Webb had been dealt with.

This course was accordingly followed.

Dr. Webb's motion was put to the meeting and carried by an overwhelming majority, only seven members voting against it.

Dr. Huckell then moved:—

That no action be taken by the Council to formulate a policy of direct contract practice.

This motion was put to the meeting and was lost. Only six or seven members voted in favour of it.

The undermentioned have been nominated for election as members of the New South Wales Branch:—

John King Osborne, M.B., Ch.M., 1903 (Univ. Sydney), F.R.C.S., Edin., L.M. Dublin, No. 4 Australian General Hospital, Randwick.

William Edgar Roberts, L.R.C.P., Lond., M.R.C.S., Eng., 1908, Alexander Flat, Bayswater Road, Darlinghurst.

Jack McFadzean Rossell, M.B., 1917 (Univ. Sydney), "Wimilda," Redmyre Road, Strathfield.

#### MENTAL DISEASES IN VICTORIA.

The Report of the Inspector-General of the Insane in Victoria for the year 1916 was issued to the Chief Secretary on September 1, 1917, and has now been printed for general information. The plan of the Report is in consonance with the needs at the present time. Dr. Ernest Jones contents himself with a page of general remarks and a short summary, covering two and a half pages, at the end of the report. Much of the information is presented in tabular form. The Chief Clerk and Accountant deals with his figures briefly and to the point, while the reports of the Medical Superintendents of the several hospitals for the insane, and that of the Pathologist, are given in abstract.

The total number of registered lunatics in the State on December 31, 1916, was 5,883. The term lunatic is employed in the report as a synonym for an insane person.

Of the 5,883 persons registered, 5,105 were inmates of the hospitals for the insane, 576 were on trial leave from these hospitals, and 112 were boarded out from them. In addition, 75 were being cared for in licensed houses and 15 were on trial from these houses.

During the course of the year 1916, 772 persons were admitted. These include 659 first admissions and 113 subsequent admissions, including those patients who were transferred from licensed houses. The total number of admissions was 52 less than in the preceding year, and was actually less than the number of patients admitted in any year since 1909. During the course of the year 742 persons either died or were discharged. The deaths numbered 451. Of those discharged, 205 had recovered, 81 had been relieved and five had not improved. The five included patients transferred to licensed houses. There were 202 patients who were transferred from one hospital to another, and 53 who escaped. Forty-nine of the latter were retaken. The total number of persons under care during the year was 6,535. Of the 772 persons admitted, 119 had had a previous attack, 36 had had two previous attacks, six had had three previous attacks, one had had four previous attacks, one had had five, and one had had eight.

Under the provisions of the *War Mental Treatment Act*, which came into force in August, 1915, 16 soldiers were admitted to the Receiving House at Royal Park. Under the provisions of the *Voluntary Boarder Act*, 136 persons applied for admission.

The usual method of estimating the value of institutional treatment, *viz.*, the calculation of the percentage of re-

coveries to the number of those admitted, is adopted. The value of this computation must be seriously affected by any variations which may occur in the number of relapses after discharge. If this percentage were a true index of recoverability from mental disease, it would have to be admitted either that the types of disease dealt with during the past six years were more severe than those in evidence in the preceding 20 years, or that the hospitals had failed in their function. It is probable, however, that the chances of recovery are improved, as compared with ten or twenty years ago, and that the so-called recovery rate has little, if any significance. In 1916 it was 26.55, in 1914 it was 27.26, in 1902 it was 44.97 and in 1891 it was 41.21.

The mean age of patients in the hospitals for the insane on the last day of December, 1916, was 45.9 years. The females were approximately five years older than the males, on the average. The age at death averaged 52.85, the age being higher in females than in males. The average age of patients on admission was 41.41 years, the age being slightly higher among the males than among the females. The average age of those who were discharged after recovery was 40.61, and was approximately six months higher in males than in females. On the other hand, the average age of those discharged "relieved" was 41.61 years, and was nearly eight years higher among the males than among the females. The average age of the inmates of the Idiot Asylum was 20. The average age at death was 16 and at admission was 11.

An attempt is made to ascribe the probable cause of insanity in the cases of those admitted during the year. In 176 instances among the 772 patients more than one of the alleged causes was discovered. These probable causes are divided into predisposing causes and exciting causes. Among the former, congenital defects, hereditary influences, previous attacks and old age, account for the majority. The exciting causes are more varied. Under the general heading of moral, mental anxiety, worry and overwork, come first; domestic trouble comes second, and adverse circumstances come third. Love affairs, religious excitement and nervous shock apparently play a subsidiary part. Under the heading physical, intemperance is the most common cause; "other bodily diseases or disorders" are tabulated as the second most prolific cause of insanity, while venereal disease holds the third place. Pregnancy, parturition, the puerperal state, lactation and the menopause, make up an important group. While the pathology of the various diseases is being carefully investigated and their aetiology studied as far as is possible, it seems somewhat anomalous that a list of alleged causes should contain, side by side with definite forces which destroy nerve tissue, physiological processes which, under normal conditions, cannot give rise to pathological changes. The list of causes should be revised, in the light of the more modern conception of insanity.

We congratulate Dr. Jones on supplying within a small compass much more information concerning the form of mental disorder than is usually vouchsafed in annual reports. He gives a table, showing the number of cases of each form of mental disorder, not only among those admitted during the year, but also among those who have recovered and who have died, and among those who remain in the institutions. Over 12% of the persons admitted during the year were suffering from primary dementia. The next most common mental disease leading to certification was senile dementia. Recent melancholia, general paralysis of the insane, non-systematized delusional insanity, systematized delusional insanity, recurrent mania, recent mania, terminal dementia, contributed, with the first two affections named, practically 80% of the diseases from which the adult patients who were admitted during the year, were suffering. The most common condition that is met with among the patients in the hospitals for the insane is senile or secondary dementia. Among those remaining on the books at the end of the year, no less than 2,367, or 40.8% of the total number came under this category. There were 508 instances of primary dementia, 637 instances of congenital mental deficiency without epilepsy, 275 of non-systematized delusional insanity, 267 of insanity with epilepsy, 220 of systematized delusional insanity, 218 of chronic mania, 156 of congenital mental deficiency with epilepsy, 97 with chronic melancholia,

96 of general paralysis of the insane and 88 of recurrent mania. The figures given in connexion with recoveries and deaths shed some light on the general prognosis of the various conditions. For example, one patient suffering from general paralysis of the insane was discharged, and is entered as a recovered case. Seventy-five patients died of this disease. There were 57 patients admitted with this disease and 96 were suffering from it at the end of the year. The mortality therefore works out at practically 100%. In the case of the senile and terminal dementias, the case mortality worked out according to the formula of the Registrar-General, would be 70%. The correctness of this calculation must depend upon the accuracy of the term "recovery." Again, the case mortality calculated in this manner of paranoia works out at 55%. Whether we are justified in assuming that the 13 patients discharged during the year were really cured of their paranoia, remains to be seen. We would make a suggestion for future reports, viz., that the diagnosis in the patients on trial leave or boarded out should also be given.

A table is given showing the cause of death in the 451 fatal cases. In 313, the cause was ascertained by post-mortem examination. General paralysis of the insane actually killed 69 persons, 57 males and 12 females. In 58 cases the cause of death was pneumonia, bronchitis or pleurisy, in 43 pulmonary tuberculosis, and in 41 valvular disease of the heart, etc. Epilepsy and convulsions are mentioned as the cause of death in 34 cases. Infective processes, including dysentery, erysipelas, enteric fever, etc., caused 47 deaths, while cancer caused 12 and syphilis 5. Organic diseases of the brain, including tumours, caused 13 deaths, meningitis 9, cerebral softening 7, cerebral hæmorrhage 5, and exhaustion from mania and melancholia 7; atrophy, debility and old age is entered as the cause of death of 64 persons.

In a special paragraph reference is made to the persons taking advantage of the *Voluntary Boarder Act*. At the beginning of the year there were 17 voluntary boarders in the hospitals for the insane and receiving houses and four in licensed houses. During the course of the year 119 persons were admitted to the hospitals for the insane and 27 to licensed houses. It appears, however, that this number is too high by at least eight, since four males and four females were admitted more than once. Four of the persons under treatment died, 14 were certified as insane and 92 were discharged. The number of discharges is at least three too many, since two males and one female were discharged more than once. One voluntary boarder escaped. At the end of the year there were 46 persons still under care.

There are two receiving houses in Victoria, one at Royal Park and one at Ballarat. Dr. Godfrey, the Medical Superintendent of the former, points out, in giving a list of the forms of mental disorder from which the patients admitted were suffering, that the great number of incurable conditions impede the effective work of benefiting those suffering from curable disease. The recovery rate, that is the percentage of patients who were well enough to be discharged, after two months' treatment, was 27%. If those patients who, although convalescent, required some further treatment, were included, the recovery rate would be 32%. Dr. Barker, the Medical Superintendent at the receiving house in Ballarat, points out that, of the 154 admissions, 60 were by private request, 77 were by the ordinary reception, 15 were by police committal, and two were referred from a district hospital and a benevolent asylum. In addition, there were 11 voluntary boarders, bringing the total up to 165. Twenty-five patients were discharged "recovered," and 11 were discharged "relieved."

Part of Royal Park Hospital has been set aside for the reception of military patients. At the beginning of the year there were six soldiers in the Hospital, and during the year there were 37 first admissions and five subsequent admissions. Of the 48 persons under care, 20 recovered, one was discharged relieved, one died, six were transferred under certificate to hospitals for the insane, one was transferred to another State, 14 remained in the Hospital and five were allowed their freedom on trial leave.

The probable causes of the mental disorder are tabulated as follows. Alcoholic excesses 13, stress and strain of warfare 8, weakened resistance from previous attacks, 7, shell shock 5, syphilis 4, hereditary predisposition 2, and shock from wounds, bodily ill-health and congenital defect one each. In seven instances two or more of these causes were combined. Dr. Godfrey expresses the opinion that it would have been reasonable to have expected a far greater number of insane returned soldiers. He suggests, however, that no deductions should be drawn until all the soldiers return. In 17 instances there is a record that the soldiers had had a previous attack of mental disorder. In three instances patients enlisted and were accepted a week or less after discharge from hospitals for the insane. One man had spent some years in a hospital for the insane; 12 men were inebriates before enlisting, and Dr. Godfrey considers that the stress of war or camp life had probably little or nothing to do with their present mental trouble. He has formed the opinion that, in addition to the 20 men who have recovered, seven will probably recover in the course of time. Seven of the soldiers never reached the front at all. Had the services of an alienist been utilized, the mental defect might have been recognized at the time of enlistment, and the country saved a considerable amount of expense. He also remarked that the military uniform worn by the attendants and nurses, has served a very useful purpose, since the insane respond more readily to the insignia of authority than is generally credited. This is particularly the case with soldiers.

In his concluding note, Dr. Ernest Jones points out that up to the present there has been no increase of insanity in the civil population, as a direct result of the war. In order to establish this fact, he reproduces tables showing the increase or decrease in each State of Australia, and in England and Wales, Scotland and Ireland, for the year 1915, and the increase or decrease in the several Australian States and in Scotland for the year 1916. A striking fact is brought out in connexion with these figures. During the two years 1915-1916, a substantial increase in the number of persons under certification obtained in New South Wales, while a small increase obtained in Victoria and South Australia. In Queensland a small decrease was registered in 1915, while in 1916 there was a not inconsiderable increase. In Tasmania the small decrease was converted into a small increase, while in Western Australia the reverse held good. Taking Australia as a whole, there was an increase of 265 insane persons in 1915, as compared with 1914, and an increase of 310 in 1916 as compared with 1915. In England and Wales, Scotland and Ireland, there was a large decrease in the number of insane in 1915 as compared with 1914. The figures for 1916 are available only for Scotland, where the decrease was smaller, but was still considerable. Dr. Ernest Jones suggests that the people of Great Britain are under better discipline than heretofore, that there is less self-indulgence, less general poverty, and more employment. In dealing with mental disease, as affecting soldiers and sailors, he points out that, as was to have been expected, the exhaustion psychoses were predominant among the returned men. Thus the list of mental disorders embraces maniacal depressive insanity, stupor and confusional states, and, among the predisposed, dementia præcox, paranoia and general paralysis. He differentiates between those men who are admitted to the mental hospital prior to embarkation, and those who are admitted after return. The former are men who are unfit for active service, often imbecile or degenerate. Many of these men are unable to stand the strain of military training, and in some of them alcohol plays an additional part. Referring to the second group, he holds the opinion that the means adopted to restrict the consumption of alcohol should have a marked effect in preventing some cases of mental disease. In his opinion, syphilis is a more important causal factor than alcohol. Under the stress and strain of war, the syphilitic virus produces profound changes in the central nervous system.

As an addendum to the report, Dr. W. A. T. Lind, the Pathologist of the Department, has contributed a short résumé of the results of an investigation into the etiology of congenital mental deficiency. The full account of this work has been published in *The Medical Journal of Australia* of October 14, 1916.

## Hospitals.

### THE PERTH PUBLIC HOSPITAL.

In the annual report of the Perth Public Hospital for the year ending June 30, 1916, the Board of Management give a brief summary of the work conducted and call attention to the manner in which the medical and lay officers have contributed to the successful performance of the functions of the Hospital and of the Branch Hospital at West Subiaco. The Chief Resident Medical Officer, Dr. W. S. Sweet, left Australia on military service during the year and Dr. G. W. Barker was appointed in his stead as Acting Chief Resident Medical Officer.

The records of the work are contained in the special reports of the Chief Resident Medical Officer, the Secretary, the Auditor and the Honorary Radiographer.

There were 171 patients in the Hospital on July 1, 1915. During the course of the following twelve months 2,909 patients were admitted, and on the last day of the year there were 171 patients still under treatment. The number of patients discharged was 2,649, of whom 1,004 were stated to have been cured, 1,319 to have been relieved and 326 to have left the Hospital unrelieved. The number of deaths was 260. The mortality, calculated according to the Registrar-General's formula, was 8.93%. The average number of patients in the Hospital was 174.6 and the average duration of stay was 22.9 days.

In the Subiaco Hospital, which serves as an infectious diseases branch to the Perth Hospital, there were 96 patients on the last day of the preceding year. The number of patients admitted was 621, while at the end of the year 52 patients were still under treatment. The number of those discharged was 634, including 531 who left the Hospital cured. Thirty-one patients died. The case mortality was 4.82%. The average number of patients in the Hospital at one time was 50.9 and the average length of stay was 29 days.

In the parent Hospital a large number of patients were treated as out-patients. The number of operations performed amounted to 1,555, and included a large number of major operations. A table of diseases treated, arranged according to the Bertillon system, is given. From this table we learn that the total number of patients suffering from enteric fever was 118. Of these 17 died. Unfortunately the number in whom the treatment was incomplete at the end of the year, is not given, and consequently the case mortalities calculated from the available figures will be too low. There were 198 cases of morbilli with 2 deaths, 319 cases of diphtheria with 7 deaths, and 96 cases of pulmonary tuberculosis with 17 deaths. In addition, 34 patients were suffering from other forms of tuberculosis. Of these 6 died. The number of patients with syphilis in its various stages was 33, and of those with gonorrhoea, 33. Cancer or other malignant tumours called for treatment 142 times. The number of deaths from this condition was 39. There were 34 cases of epidemic cerebro-spinal meningitis with 5 deaths, and 4 of simple meningitis with 2 deaths. The total number of cases entered under the general heading of "diseases of the circulatory system" was 274, while to this should be added 16 cases of cerebral hemorrhage, making a total of 290. The number of deaths from these causes was 44. There were 54 cases of pneumonia with 15 deaths. Other diseases were dealt with during the course of the year.

The Honorary Radiographer reports that X-rays were resorted to for diagnostic purposes 647 times, while they were applied therapeutically 1,953 times.

The amount spent on maintenance and administration at the Perth Public Hospital was £18,218 and at Subiaco £5,406. The annual subscriptions amounted to £168, the patients contributed fees to the extent of £585, while debits were raised amounting to £16,647. The Out-patients' fees aggregated £384. The cost per patient per week was £1 6s. 3d. at Perth, and £1 16s. 2d. at Subiaco.

## Special Correspondence.

(By Our Special Correspondent.)

### LONDON LETTER.

#### Medical Re-Examination for Army Service.

The Select Committee on Medical Re-examination resumed its sittings at Westminster on November 6, 1917.

Dr. James Galloway, who has been appointed Chief Commissioner of Medical Service, explained to the Committee the new arrangement which had been made with regard to recruiting. He said that in each of the ten recruiting areas there was a Deputy Commissioner of Medical Service, acting under the Chief Commissioner. The medical boards were now constituted entirely of civilian medical practitioners, and in the great majority of instances the policy of the Ministry was to employ as part-time officials civilian practitioners actually in work in the area. They would serve on the board, forming a panel among themselves, and giving a certain amount of time to the board. The policy of the Ministry had been to place every facility possible at the disposal of the men who wished to be re-examined. Their object was to encourage the men to come forward for re-examination to be graded under the new conditions. If a man was dissatisfied with his examination or medical grading, he had the opportunity of appeal within five clear days of his appearing before the National Service Medical Board. The man would come before the Medical Appeal Tribunal, and if they thought there was any reason for his being re-examined, they would send him to what were known as the medical assessors of the appeal tribunals. The assessors would be chosen from the profession throughout the country. Attested men would have the same rights and privileges of appeal on medical grounds as unattested men. There had been established a Medical Advisory Board—men who had been selected by statutory committees—from England, Scotland, and Wales—also certain nominees of their own.

Explaining the new grading system, Dr. Galloway said that they had tried to simplify classification, so as to have as broad medical distinctions as possible, in order that medical boards could be reasonably expected to put men into broad groups rather than into the infinitesimal divisions which had grown up under the old system.

#### Travelling Medical Boards.

The War Office arrangements for the medical re-examination of soldiers are set out in an Army Council instruction issued early in December. Travelling medical boards as at present constituted are to be abolished at once; in future the presidents will be selected from the existing presidents, or from temporary Royal Army Medical Corps officers who are members of existing travelling medical boards, and the members of the board will be an officer of the Royal Army Medical Corps, selected by the Deputy Director of Medical Services of the Command as a permanent member, and, where boards visit large garrisons, one commanding officer of a unit (not under the rank of field officer) which is not being examined. Those boards which will ordinarily visit command depôts or districts having small, detached garrisons, will have a permanent president, and a permanent member, who must be a combatant officer, not below the rank of field officer, who has commanded a battalion during the war. This member will be appointed by the War Office.

The boards will in future undertake re-categorization only, and will have nothing to do with actual discharge of men from the service. Should they consider any soldier unfit for further military service, he will be classified as Category E, with no other remark. Each board will be allotted a district, in which it will see, with a view to re-classification, every soldier with certain specified exceptions. Where men are found fit for general service, they will be classified merely as Category A, and no remarks, such as "fit for non-shooting corps," must be added. No man is to be put in Category A unless he is fit for general service in any unit or arm to which he may be afterwards transferred. In classifying men under Category B, the board will specify the sub-heads which correspond to degrees of medical fitness. A travelling medical board must visit command depôts once a month, and inspect all the men on the permanent establishment.



The following officers will attend the sitting of a travelling medical board: The commanding officer, or second in command of the unit being examined; the medical officer in charge of the unit being examined; the officer commanding a company when soldiers of his own company are being examined.

The instruction points out that in forming their opinion as to the fitness of men, travelling boards should not be too exclusively guided by the purely medical aspect of the case. The evidence of commanding officers and of regimental medical officers as to the psychological condition of the men should invariably be taken, when offered or in cases of doubt, and should be carefully weighed.

The president will consult the medical and combatant members of the board in all cases of doubt, and the vote of the majority will decide. All members of the board are to be present throughout the board's sitting.

#### The Problem of the Disabled.

Under the title of "The Problem of the Disabled," Colonel Sir Robert Jones, of Liverpool, delivered an interesting lecture at the Royal Institute of Public Health on November 15, 1917. Ex-King Manoel of Portugal occupied the chair.

Sir Robert Jones, after making a graceful allusion to Ex-King Manoel's association with the work on behalf of wounded soldiers, proceeded to point out how essential it was that we should retain the economic man-power of the nation, instead of being flooded with helpless cripples after the war. Orthopaedic surgeons had been faced with new problems, for in the early days of the war they were without experience of the injuries inflicted by high explosives and the septic influence of the highly-manured soil of France. It was necessary that the surgeons at the orthopaedic centres should be young men of flexible minds, but the number available was limited. Limbs that looked so hopeless as apparently to be fitted only for amputation, had to be reconstructed, and caused to perform their functions by new methods. An intensive treatment gave the finishing touches that meant so much to the future of the country. Most gunshot wounds were poisoned, and at the front, where the object of the surgeons was to save life, they were hampered in regard to the functioning of muscles. But the shortened limbs that came from them to the orthopaedic centres, were not only restored to their proper length, but the incidence of body-weight was carefully adjusted in relation to the fracture. The patients were retained until the joints became supple, and in six months they left the hospitals with joints as nearly normal as art could make them. A piece of shin bone was perhaps removed and placed in the arm, massage and electricity were employed, nerves were re-united, and muscles were transplanted and re-educated. Young surgeons planned new routes for tendons, and all the treatment was directed to the patient's resumption of his ordinary calling, which, in some cases, required the mobility rather than the strength of a limb. A remarkable operation was the removal of a finger from a good hand to replace a thumb on the other, and in due course it had moved just in the same way as the original thumb. He described the valuable work of the curative workshops, where the psychological influence was a great help, the men becoming happy in their recovery of power to work, in contrast with the mental apathy that was common at first among the disabled. Cripples in the old sense would, he believed, cease to exist. The men must be saved from the "blind alley," otherwise there would be a great tragedy when the time came for them to be replaced by more competent workers. He mentioned that 75% of the patients at the orthopaedic centres had been restored to the Army. The work was the romance of physiology, but the process could not be hastened, and treatment must be lengthy and continuous.

#### Education in Science.

In the report of the Committee on the Neglect of Science, issued in July, 1917, reference was made to the Committee appointed by the Treasury to consider and report upon the scheme of examination for Class I. of the Civil Service. The Committee on the Neglect of Science, in a memorandum submitted to the Civil Service Committee, recommended that there should be two examinations—one a qualifying examination, to be taken by all candidates, and the other a competitive examination. This division is accepted by the Civil Service Committee, but no subjects are made compulsory,

so that no necessity is put upon the headmasters of the great public schools to give any more attention to science than has hitherto been the case. The Committee has now published as a pamphlet an article by Sir Ray Lankester, explaining the present position and showing the opportunity that has been lost by the Civil Service Committee in bringing about a much-needed reform. The article concludes: "It is simply absurd to allow the great schools and the old Universities to administer great national funds so as to maintain, decade after decade, century after century, the vested interests of a schoolmaster class, ignorant of, and therefore hostile to, the most important national interests—the education of our best sons in the knowledge of nature. Mr. Stanley Leathe's Committee, instead of rescuing education from the professional vested interests of the classical schoolmasters, hands back the victim, after many professions of goodwill, to the tender mercies of those who are banded together to starve, torture, and discredit her, and remorselessly to maintain the domination and the pecuniary allurements of the 'classical system.'"

### Correspondence.

#### MEDICAL EXAMINATION OF RECRUITS.

Sir,—I read with very great interest the article by Dr. F. Antill Pockley on "Soldiers' Eyesight," which appeared in the last *Journal*. As one who has been engaged for the last two years in conducting medical examinations of candidates for the A.I.F., I am forced to agree with Dr. Pockley that many hundreds of fit men have been rejected as unfit simply because in some small detail they may fail to reach the required standard. Every country examiner will, I feel sure, be able to recall cases of men rejected, as Dr. Pockley remarks, for "slight degrees of varicocele," who were highly indignant at the thought of being classed as unfit, when their daily work demanded of them a high standard of fitness. As things are at present there is nothing for the country examiner to do but to observe the standard demanded and to put his personal knowledge of the candidate into the background.

The standard required at present is the same as that set two years ago, and that some alteration in the method of dealing with candidates for enlistment is required, is indicated by the number of men classed as fit who have been returned to Australia without even seeing the trenches, and also by the fact that the ranks of the unfit hold hundreds of men whose daily bread depends on their ability to perform the most arduous and toilsome work.

Yours, etc.,

J. HUGH ROBERTSON.

Lismore, March 18th, 1918.

#### MEDICAL MEN AND THE WAR

Sir,—I read with pleasure an article by Dr. Hornabrook, which appeared in a late issue of your *Journal*, in which he urges all medical men in Australia to offer their services for military work abroad, even if it were only for a short time. In this State (South Australia) the single men have volunteered almost to a man. A large number of the senior men, with large practices, with praiseworthy zeal, have done the same at considerable sacrifice to themselves, but I am sorry to say a considerable number of the younger married men have shirked their obvious duty, and remained at home, and have no doubt benefitted considerably by the absence of their colleagues, who had gone abroad.

Many of the home appointments in this State are held by men who have not seen active service. In my opinion all these appointments, other things being equal, should be given to the men who "have done their bit," as some slight recompense for the sacrifices they have made in leaving their practices to serve the Empire. No doubt at the earlier part of the war, these home appointments had to be given to men who were on the spot, but now there are a sufficient number of returned men these appointments should be reserved for them alone.

Yours, etc.,

SOUTH AUSTRALIA.

## WAR CRIPPLES.

Sir,—In connexion with the leading article in the *Journal* of the 16th instant, I may state that in December, 1916, the D.M.S., A.I.F., appointed a surgeon from each State (excepting Western Australia, as there was not then a man available with the necessary qualifications) to visit the big orthopaedic centres in London and enquire into the arrangements for dealing with the disabled, maimed and crippled.

I know that three of these men have returned to the Commonwealth within the last 6 or 8 months, and to the best of my belief, no attempt whatsoever has been made by the authorities to make any use of their special knowledge and experience. Instead, the D.G.M.S. has been sent away to study a problem in which he expressed himself to me as having no interest at all, and to learn in a flying visit what it has taken others many months to assimilate.

Meantime our cripples are waiting, and only a fortnight ago, one man was told it would take the best part of six months to repair his artificial leg, which was out of order.

*Festina lente* with a vengeance!

Yours, etc.,

HUGH R. G. POATE.

225 Macquarie Street, Sydney,  
19th March, 1918.

## Medical Appointments.

During the absence on active service of Dr. Alan Bothwell McCutcheon (B.M.A.), Dr. Wesley Garnet Deravin (B.M.A.) has been appointed Acting Officer of Health for the Borough and Tarnagulla Ridings, Shire of Bet Bet, Victoria.

The appointment of Dr. N. L. Prichard (B.M.A.) as Officer of Health for the East Riding of the Shire of East Loddon, and of Dr. G. A. Eadie (B.M.A.) for the North and West Ridings of the Shire of Ripon, Victoria, is announced in the *Victorian Government Gazette*, of March 20.

## Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xv.

Newcastle Hospital, three Junior Resident Medical Officers.

## Medical Appointments.

## IMPORTANT NOTICE

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
<b>VICTORIA.</b> (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges, Institutes, Medical Dispensaries and other contract practice. Australian Prudential Association Proprietary, Limited. National Provident Association. Life Insurance Company of Australia, Limited. Mutual National Provident Club.
<b>QUEENSLAND.</b> (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Medical Officers to the Selwyn Hospital, North Queensland. Brisbane United Friendly Society Institute. Cloncurry Hospital.

Branch.	APPOINTMENTS.
<b>SOUTH AUSTRALIA.</b> (Hon. Sec., 3 North Terrace, Adelaide.)	The F.S. Medical Assoc., Incorp., Adelaide. Contract Practice, Appointments at Renmark.
<b>WESTERN AUSTRALIA.</b> (Hon. Sec., Health Department, Perth.)	All Contract Practice Appointments in Western Australia.
<b>NEW SOUTH WALES.</b> (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United F.S. Dispensary. Canterbury United F.S. Dispensary. Leichhardt and Petersham Dispensary. M.U. Oddfellows' Med. Inst., Elizabeth Street, Sydney. Marrickville United F.S. Dispensary. N.S.W. Ambulance and Transport Brigade. North Sydney United F.S. People's Prudential Benefit Society. Phoenix Mutual Provident Society. F.S. Lodges at Casino. F.S. Lodges at Lithgow. F.S. Lodges at Parramatta, Auburn and Lidcombe. Newcastle Collieries — Killingworth, Seaham Nos. 1 and 2, West Wallsend.
<b>TASMANIA.</b> (Hon. Sec., Belgrave, Tasmania.)	Medical Officers in all State-aided Hospitals in Tasmania.
<b>NEW ZEALAND: WELLINGTON DIVISION.</b> (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, N.Z.

## Diary for the Month.

- Apr. 2.—N.S.W. Branch, B.M.A., Council (Quarterly).  
Apr. 5.—Q. Branch, B.M.A.  
Apr. 9.—N.S.W. Branch, B.M.A., Ethics Committee.  
Apr. 9.—Tas. Branch, B.M.A., Council and Branch.  
Apr. 10.—Vic. Branch, B.M.A.  
Apr. 11.—Vic. Branch, B.M.A., Council.  
Apr. 16.—N.S.W. Branch, B.M.A., Executive and Finance Committee.  
Apr. 17.—North-Eastern Med. Assoc. (N.S.W.).  
Apr. 17.—W. Aus. Branch, B.M.A.  
Apr. 18.—City Med. Assoc. (N.S.W.).  
Apr. 19.—Eastern Suburbs Med. Assoc. (N.S.W.).  
Apr. 19.—Q. Branch, B.M.A., Council.  
Apr. 20.—Northern Suburbs Med. Assoc. (N.S.W.).  
Apr. 23.—N.S.W. Branch, B.M.A., Medical Politics Committee: Organization and Science Committee.  
Apr. 24.—Western Suburbs Med. Assoc. (N.S.W.).  
Apr. 24.—Vic. Branch, B.M.A., Council.

## EDITORIAL NOTICES.

Manuscripts forwarded to the office of this Journal cannot under any circumstances be returned.

Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.

All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney, New South Wales.